"A STUDY TO EVALUATE THE EFFECTIVENESS OF THERAPEUTIC BACK MASSAGE ON THE QUALITY OF SLEEP AMONG ELDERLY IN LION'S CLUB OLD AGE HOME AT ERODE."

By

Register No: 301312052

Dissertation Submitted to

THE TAMILNADU DR. M.G.R MEDICAL UNIVERSITY

Chennai, Tamilnadu.

In partial fulfilment

Of the requirements for the degree of

Master of Science

In

Medical Surgical Nursing

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M.Sc.NURSING (2013-2015)

NANDHA COLLEGE OF NURSING

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AFFILIATED TO THE TAMILNADU DR. M.G.R MEDICAL UNIVERSITY, CHENNAI.

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ENDORSEMENT BY HEAD OF THE INSTITUTION

This is to certify that the dissertation entitled **"A STUDY TO EVALUATE THE EFFECTIVENESS OF THERAPEUTIC BACK MASSAGE ON THE QUALITY OF SLEEP AMONG ELDERLY IN LION'S CLUB OLD AGE HOME AT ERODE."** is a bonafide research work by: **301312052, Nandha College of Nursing , Erode** in partial fulfillment of the University rules and regulation for award of M.Sc., in **Medical Surgical Nursing** under my Guidance and Supervision, during the academic year 2014-2015.

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"Give me a spirit of thankfulness, Lord, For

number less blessing given,

grace that daily come to me

Like dewdrops falling from

heaven"

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- Researcher

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ABSTRACT

The present research was “A study to evaluate the effectiveness of therapeutic back massage on quality of sleep among elderly in lion’s club old age home, Erode”. It was conducted by **Mrs. R. SATHIYA PRIYA** in partial fulfillment of the requirement for the degree of Master Of Science in Nursing at The Nandha College Of Nursing, under The Tamilnadu Dr.M.G.R. Medical University, Chennai during the year 2015.

The **Objectives** of the study were

1. To assess the pre-test and post-test score of quality of sleep among elderly in both experimental and control group.
2. To implement and evaluate the effectiveness of therapeutic back massage on quality of sleep among the elderly in experimental and control group.
3. To find out the association between the pre test quality of sleep among elderly with selected demographic variables such as age, sex, marital status, day time naps, use of caffeine, dietary pattern, and type of activity.

The following **hypotheses** were set for the study and all hypothesis were tested at 0.05 level of significance.

H1: Therapeutic back massage will be effective in improving the quality of sleep among elderly.

H2: There will be a significant association between the pre test quality of sleep among elderly with selected demographic variables such as age, sex, marital status, day time naps, use of caffeine, dietary pattern, and type of activity.

The conceptual frame work of the study was based upon J.W.Kenney's open system model. The research approach used for this study was **Experimental study** and the research design was "**Quasi experimental design**". 60 elderly with poor and moderate quality of sleep were selected for this study by using purposive sampling technique. Data were collected with the help of Medical Outcome Study Sleep scale. The tool was given to five experts for content validity. This standardized scale reliability is r = 0.75 according to the evaluation of Spritzer. K.L. and Hays R.D. during the year 2003. The Tamil version of the tool is reliable (r = 0.74). Pilot study was conducted to find the feasibility of the study and to plan for data analysis. Therapeutic back massage was provided for the samples in experimental group, therapeutic back massage was provided for 8 elderly for 6 consecutive days in a week. By means of interview technique using medical outcome study sleep scale the samples in the control and experimental group were assessed and reassessed to find the effectiveness of back massage on the quality of sleep. And the Descriptive statistics (frequency, percentage, mean and standard deviation) and inferential statistics (chi-square, paired 't' test and unpaired 't' test) were used to analyze the data and to test hypotheses.

The significant findings of the study were:

- In the experimental group the pre test revealed that majority of clients 21 (70%) had poor quality of sleep and 9 (30%) had moderate quality of sleep. Whereas in post test

majority of clients 24 (80%) had good quality of sleep and 6 (20%) had moderate quality of sleep.

- In the control group the pre test revealed that majority of clients 20 (67%) had poor quality of sleep and 10 (33%) had moderate quality of sleep. Whereas in post test majority of clients 21 (70%) had poor quality of sleep and 9 (30%) had moderate quality of sleep. And none of the elderly had good quality of sleep both in pre test and post test.

- Therapeutic back massage was effective in increasing the quality of sleep of the participants in the post-test than the pre-test in the experimental group. ($t = 19.26 > 0.05$)

- Therapeutic back massage was effective in increasing the quality of sleep of the participants in the mean post-test score of experimental group than the mean post-test score of the control group. ($t = 55.96 > 0.05$)

- **In experimental group** it is evident that there is significant association exist between quality of sleep with the selected demographic variables, such as age ($\chi^2 = 14.69$), personal habits ($\chi^2 = 17.45$), day time napping ($\chi^2 = 15.4$) and type of activity ($\chi^2 = 13.16$) in pre test scores of quality of sleep. The table values of these variables are lesser than the calculated value at 0.05 levels, so the researcher accepts the research hypothesis.

- **In control group** it is evident that there is significant association exist between quality of sleep and selected demographic variables, such as age (χ^2=17.69) , personal habits (χ^2=19.91), day time napping (χ^2=14.43) and type of activity (χ^2=14.82) in pre test scores of quality of sleep. The table values of these variables are lesser than the calculated value at 0.05 level, so the researcher accepts the research hypothesis.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations are

1. Replication of the study could be done with a larger sample to validate and generalize the findings.
2. The study can be done by maximizing the time period of therapeutic back massage.
3. The study can be conducted to determine the effectiveness of therapeutic back massage on pain.
4. The study can be conducted among different groups in hospital and community settings.
5. Comparative study can be done to assess the effectiveness of therapeutic back massage among male and female in general wards.
6. The study can be conducted using various research designs.
7. Therapeutic back massage can be applied on the institutionalized elderly and hospitalized elderly to improve quality of sleep with various health problems and various other sleep disorders.
8. The study can be conducted using various age groups like menopausal women, students, call centre workers etc., who have poor quality of sleep.

KEY WORDS

Quality of sleep, therapeutic back massage, elderly.

CHAPTER I

INTRODUCTION

"Each night, when I go to sleep, I die. And the next morning, when I wake up, I am reborn."

- Mahatma Gandhi

Health is a fundamental human right and a worldwide social goal. Health is necessary for the realization of basic human needs and to attain the status of a better quality of life. Health is a state of complete harmony of the body, mind and spirit, free from physical disabilities and mental distractions.

It is health that is real wealth and not pieces of gold and silver.

- Mahatma Gandhi

"A healthy body is the guest – chamber of the soul, a sick body is a prison."

(Francis Bacon)

We are living in a rapidly changing environment. Throughout the world, human health is being shaped by the same powerful forces: demographic ageing, rapid urbanization and the globalization of unhealthy lifestyles.

In this growing population we have people in all age groups like childhood, adolescence, middle aged adults and older adults. The world over, there has been a rapid increase in the number of elderly people. In India, the "aged" population (60years and elder) is the second largest in the world. It is estimated that the proportion of elderly increase from 7.7% in 2001 to about 11% in 2020. With this

increase in the population of the elderly, societies in each country has to learn how to deal with a new set of health challenges. It is known that the elderly people suffer from various types of problems physically, psychologically, economically and socially. Forty five percent of older Indians have chronic disease and disabilities like hypertension, diabetes mellitus, asthma, renal failure and various cardiovascular conditions.

Several physical and psychological changes are known to occur with normal ageing; however, adjustment to changes in sleep quantity and quality can be among the most difficult. Although sleep disturbance is a common complaint among patients of all ages, research suggests that older adults are particularly vulnerable. A large study of over 9,000 older adult's age of > 65 yr found that 42 percent of participants reported difficulty initiating and maintaining sleep.

A world wide study was conducted in various areas to assess the sleep problem of elderly. The study included nearly 50,000 participants -- 24,434 women and 19,501 men -- age 60 and older. The scope of the study included rural populations in Ghana, Tanzania, South Africa, India, Bangladesh, Vietnam, and Indonesia, and an urban population in Kenya. Researchers assessed the quality of sleep among participants over a 30-day period, and analyzed this information with social demographic data, including income, education levels, and partnership status. They also looked at physical and mental health, and a self-reported measurement of quality of life. In India and Indonesia reported the lowest rates of sleep problems -- 6.5 percent of Indian women and 4.3 percent of Indian men reported difficulty with sleep, and 4.6 percent of Indonesian women and 3.9 percent of Indonesian men reported sleep

problems. Rates in Vietnam were significantly higher -- 37.6 percent of Vietnamese women reported sleep problems, compared to 28.5 percent of Vietnamese men. In South Africa, 31.3 percent of women and 27.2 percent of men reported difficulty with sleep. These rates are substantially higher than other African countries included in the study. Overall rates of sleep problems in the remaining African nations of Tanzania, Ghana and Kenya ranged between 8.3 percent and 12.7 percent. Bangladesh has the highest rates of overall sleep problems among the nations included in this study, driven largely by its exceptionally high rate of sleep difficulty among women. More than 40 percent of Bangladeshi women reported having problems sleeping, compared to 23.6 percent of Bangladeshi men.

(*Dr. Michael J. Breus, et al, 2012*)

In Iindia nearly half of older adults report difficulty initiating and maintaining sleep. With age, several changes occur that can place one at risk for sleep disturbance including increased prevalence of medical conditions, increased medication use, age-related changes in various circadian rhythms, and environmental and lifestyle changes. Although sleep complaints are common among all age groups, older adults have increased prevalence of many primary sleep disorders including sleep-disordered breathing, periodic limb movements in sleep, restless legs syndrome, rapid eye movement (REM) sleep behaviour disorder, insomnia, and circadian rhythm disturbances. The present review discusses age-related changes in sleep architecture, aetiology, presentation, and treatment of sleep disorders prevalent among the elderly and other factors relevant to ageing that are likely to affect sleep quality and quantity.

(Indian journal of medical research, 2010)

Good food, best drinks and sleep sound in these three good health abound.

(Chinese proverb)

Sleep is a basic human need. It is a universal biological process common to all people. Human spend about one-third of their lives asleep. Sleep is a vital for not only optimal psychological functioning but also physiological functioning as the rate of healing of damaged tissue is greatest during sleep.

(Robinson, 2005)

According to humanist psychologist, our actions are motivated in order to achieve certain needs. Maslow first introduced his concept of a hierarchy of needs in his 1943 paper "A Theory of Human Motivation" and his subsequent book *Motivation and Personality*. This hierarchy suggests that people are motivated to fulfil basic needs before moving on to other, more advanced needs. This hierarchy is most often displayed as a pyramid. The lowest levels of the pyramid are made up of the most basic needs, while the more complex needs are located at the top of the pyramid. Needs at the bottom of the pyramid are basic physical requirements including the need for food, water, sleep, and warmth. Once these lower-level needs have been met, people can move on to the next level of needs**.**

(Abraham Maslow)

Hence we see that sleep is one of the basic needs of human life. About one third of our lives are spent in sleeping. It is necessary to health and a sense of well being. Sleep makes you feel better, but its importance goes way beyond just boosting your mood or banishing under-eye circles. Adequate sleep is a key part of a healthy lifestyle. What difference could an extra hour of sleep make in our life? Maybe quite

a lot, experts say. Studies show that the gap between getting just enough sleep and getting too little sleep may affect our health, our mood and our weight. If we're getting less than the recommended seven or eight hours of sleep a night, here are some reasons that you should shut down your computer, turn off the lights, and go to bed an hour early tonight, which include, Better health, Less pain, Lower risk of injury, Better weight, Better mood, Clear thinking, Better memory and stronger immunity.

Sleep quality is not directly associated with sleep quantity. Sleep quality is associated with subjective estimates of the ease of sleep onset, sleep maintenance, total sleep time and early awakening. In addition, restlessness during the night, movement during sleep, anxiety, tension, or calmlessness when trying to sleep have also been reported to be associated with sleep quality. Good sleep quality is associated with wide range of positive outcomes such as better health, less day time sleepiness, greater wellbeing and better psychological functioning. Poor sleep quality is one of the defining features of chronic insomnia.

(Harvey,Stinson, Whitaker, Moskovitz, and Virk 2008)

Medications prescribed for the treatment of comorbid conditions may also exacerbate or cause difficulties sleeping at night as well as drowsiness during the day, initiating naps and resulting in further disruption of night sleep

(Cuellar et al., 2007)

It has been reported in the literature that elderly individuals who take a nap during the day have poor quality of sleep. **(Ersser et al., 1999)**

Psychological factors that can disturb sleep include anxiety, depression, psychiatric disease, stress and cognitive function distress

(Sok, 2007)

Sleep related disorders are common in the general adult population, and as the population ages, the prevalence of these disorders increases. A common misconception among clinicians and the public is that this increased prevalence is a normal and expected phenomenon of ageing. However, this higher prevalence of sleep disruption is often the result of the increased presence of medical and psychological comorbidities in this population. The complicated multifactorial interactions that generate sleep disorders in older individuals pose important challenges to clinicians. Furthermore, many clinicians are unaware of the seriousness and potential morbidity associated with sleep problems in older people, distinct from the morbidity of concurrent disorders. As a result, these issues are often under investigated, or completely ignored.

(Reid KJ, 2005)

Because of the high prevalance, complexity and health implications associated with sleep related disorders in older individuals, increasing attention is now being focused on this topic. For example, a recent publication has recommended that sleep problems be approached as a "multifactorial geriatric syndrome."

(VanFragoso CA, 2007)

Chronic sleep disturbances is common among the elderly. These elderly patients are often viewed as difficult to treat, yet they are among the groups with the greatest need of treatment. Insomnia is a prevalent problem in late life. Sleep problems in the

elderly are often mistakenly considered a normal part of aging. Insomnia, the most common sleep disorder, is a subjective report of insufficient or non restorative sleep despite adequate opportunity to sleep. Despite the fact that more than 50% of elderly people have deprived sleep, it is typically undertreated.

There are several measures like massage therapy, music therapy, pharmacotherapy, bright light therapy behaviour therapy and Yoga's etc. But to treat sleeplessness, the therapeutic massage is considered one of the effective methods used to induce sleep.

The three main physical effects of therapeutic massage are release of muscle tension, increased blood circulation and initiation of relaxation response. The release of muscle tension will improve balance and co-ordination, resulting in more restful sleep and lessen then need for pain medication. The increased circulation will improve nutrition to tissues and will remove waste products from tissues reduce swelling improve skin tone and relieve dryness and itching and favours speedy healing etc.

NEED FOR THE STUDY:

Chronic sleep disturbances are associated with difficulty in *initiating* sleep (i.e., is a problem of sleep onset), *maintaining* sleep, or *obtaining restorative* sleep; however, the elderly spend more time awake after initially falling asleep than their younger counterparts < 65 years, and sleep maintenance problems are therefore the primary symptoms in this age group. Foley et al. reported that 49% of elderly patients experienced sleep maintenance symptoms (30% complained of waking during the

night; 19% complained of waking too early), compared with only 19% who experienced the sleep-onset symptom—difficulty falling asleep.

(Cuellar et al., 2007)

A multicenter epidemiologic study was conducted to assess the prevalence of sleep complaints among more than 9000 non-institutionalized elderly persons aged 65 years and older. A 1991 National Sleep Foundation poll of a representative sample of 1000 Americans aged 18 years or older, who were divided by age into 6 groups (18–24, 25–34, 35–44, 45–54, 55–64, and ≥ 65), found that 9% of the sample reported chronic insomnia, while 20% in the group ≥ 65 years reported chronic insomnia, the highest among all age group. Insomnia has been cited as a primary factor in caregivers' decisions to institutionalize an elder, with 20.4% and 52% of admissions to long-term care directly.

(The National Institute on Aging, 1982)

Sleep problems results in an increased risk of falls, accidents, daytime sleepiness, chronic fatigue, difficulty with concentration and memory and overall decreased quality of life.

(Ancoli – Israel and Ayalon 2006; Goktay and Ozkan, 2006)

Sleep complaints are associated with increasing mortality and morbidity

(Cuellar et al., 2007)

The cost of insomnia, the number one sleep complaint of older adults, has been estimated at more than 100 million with 285 million spent on benzodiazepines alone.

(Martin, Aikens and Chervin 2004)

Adults aged over 65 years old are 5 times more likely to receive a drug prescription for sleep problems compared with younger adults

(Cuellar et al., 2007)

The promotion of sleep in older adults would therefore seem to have particular implications for the role of nurses and care workers. Nurses have only a limited range of non pharmacological interventions to enhance the sleep quality of those in their care. Massage is one of the most common complimentary therapies in nursing practice. It is well documented that massage therapy has been used throughout the world for thousands of years, and that touching , stroking and gentle massage can be a soothing and enjoyable experience. Selye's stress theory explains the effectiveness of massage as an integrated physiological response originating in the hypothalamus that leads to a generalized increase or decrease in the arousal of the central nervous system. Massage, which produces relaxation by decreasing the tension in the muscles., is the opposite of the stress response. The promotion of relaxation and relief from anxiety may work by reducing muscle spasms and in turn, aiding pain relief.

(Mok and Woo, 2004)

A report entitle, "sleep disorders and sleep deprivation: an unmet public health problem" which recognized the wide range of deleterious health and safety consequences of disturbed and inadequate sleep. The report called for increased awareness among health care professionals about the physiology of healthy sleep and sleep disorders across the lifespan, as well as for the development and

implementation of programs to promote the early diagnosis and treatment of sleep disorders.

(Institute of medicine, 2006)

Sleep disturbances is a frequent problem among elderly people. As a consequence, sedative hypnotic drugs are prescribed very often that can lead to problematic effects. As an alternative to sedative hypnotic drugs nurses use relaxing interventions to promote sleep. Among these techniques, the back massage is very popular because of the expected relaxing effect of touch.

A research study reported that applying gentle back massage for 3 days to individuals aged between 52 and 88 produced feelings of reduced anxiety, calm, restfulness, physical relaxation and good sleep.

(Holland and Pokorny 2001)

Often the hands will solve a mystery that the intellect has struggled with in vain**.**

(Carl Jung, 2012)

With the reflection of all the above mentioned facts and statistics regarding prevalence of poor quality of sleep in elderly and its complications, reflects us the need to take up an immediate role in treating the elderly with non pharmacological approach like therapeutic back massage was found to be very crucial at this time. Nurses, who are in position to help the elderly, should understand their overall condition and have to implement their treatment plans effectively. They are in a unique position to inform and support the elderly, by explaining them the need for therapeutic back massage to improve their quality of sleep. Hence the researcher felt

the importance of therapeutic back massage to meet the needs of elderly suffering from poor sleep quality and thus improve their quality of sleep by implementing massage therapy in caring for the elderly in order to provide a holistic care.

STATEMENT OF THE PROBLEM:

A STUDY TO EVALUATE THE EFFECTIVENESS OF THERAPEUTIC BACK MASSAGE ON THE QUALITY OF SLEEP AMONG ELDERLY IN LION'S CLUB OLD AGE HOME AT ERODE.

OBJECTIVES OF THE STUDY

1. To assess the pre-test and post-test score of quality of among elderly in both experimental and control group.
2. To implement and evaluate the effectiveness of therapeutic back massage on quality of sleep among the elderly.
3. To find out the association between pre-test quality of sleep among elderly and selected demographic variables such as age, sex, marital status, day time naps, use of caffeine, dietary pattern, and type of activity.

RESEARCH HYPOTHESIS:

H1: Therapeutic back massage will be effective in improving the quality of sleep among elderly.

H2: There will be a significant association between the pre-test quality of sleep among elderly with selected demographic variables such as age, sex, marital status, day time naps, use of caffeine, dietary pattern, and type of activity.

OPERATIONAL DEFINITIONS

EFFECTIVENESS:

Effectiveness is the capability of producing a desired result. When something is deemed effective, it means it has an intended or expected outcome, or produces a deep, vivid impression.

In this study it refers to the improvement in the quality of sleep after administration of therapeutic back massage as measured by the standardized sleep scale.

THERAPEUTIC BACK MASSAGE:

Therapeutic back massage is the scientific art and system of assessment and the manual application to the superficial soft tissue of skin, muscles, tendons, ligaments, fascia and the structures that lie within the superficial tissue by using the hand, foot knee, arm elbow and fore arm through the systematic and external application of touch, effleurage, friction, Vibration, petrissage, tapotement and compression or passive and active joint movements within the normal physiologic range of motion.

In this study therapeutic back massage refers to the manipulation of muscles in the thoraco lumbar region by means of effleurage, friction, vibration, petrissage and tapotement .

Effleurage : The word effleurage is from the French word effleurer, meaning “to glide” or “touch lightly”.

Friction : The word, friction comes from the Latin word frictio, meaning “to rub”.

Vibration : The vibration massage technique is a stroke that ranges from quick shaking to rhythmic rocking by moving the heel of the hand, the side of the hand, or the fingertips.

Petrissage : The word, petrissage is from the French word patrir, meaning "to knead". Petrissage is the act of kneading and squeezing the muscles of the body and the tissues are compressed and released in a rhythmical fashion.

Tapotement: The word, tapotement is derived from the old French term tapir,meaning "light blow." This massage technique involves a series of brisk percussions, in rapid, alternating, and rhythmic fasion.

QUALITY OF SLEEP:

Quality of sleep is defined as one's satisfaction of the sleep experience, integrating aspects are sleep initiation, sleep maintenance, sleep quantity (amount or hours spent on bed sleeping), and subjective refreshment upon awakening with very less interruptions.

In this study it is the outcome of back massage, the gradual improvement of the sleep pattern and is the subjective response of quality and quantity of sleep as measured by Medical outcome study – sleep scale.

ELDERLY PEOPLE:

"Elderly" has been defined as a chronological age of 60 years old or older, while those from 60 through 74 years old are referred to as "early elderly" and those over 75 years old as "late elderly."

In this study we consider elderly people with the age group of 60 and older.

ASSUMPTIONS:

1. Sleep disturbances are common among elderly people.

2. Therapeutic back massage will improve the quality of sleep among elderly

3. Demographic variable influence the quality of sleep.

DELIMITATIONS:

The study is delimited to

- Elderly with sleep disturbances living in lion's club old age home at Erode only.
- Sample size is limited to 60 only.
- The study period limited for 4 weeks only.

CONCEPTUAL FRAMEWORK:

Conceptual frameworks are inter-related concepts that assembled together in some rational scheme by virtue of their relevance to a common theme. Conceptual framework helps to stimulate research and the extension of knowledge by providing both direction and inputs**.**

(Polit and Hungler, 1999)

Conceptual framework is the precursor of a theory. It provides broad prospective for nursing practice, research and education. Conceptual framework plays several inter-related roles in the progress of science. Their overall purpose is to make scientific and meaningful findings and also to generalize the findings**.**

(Polit and Hungler, 1999)

The present study is focused on the effectiveness of therapeutic back massage on quality of sleep among elderly. The study is based upon **J.W.Kenny's open system model**. The system‟s theory is concerned with changes due to interrelation between various factors in a situation. All living systems are open, in which there is a continual exchange of matter, energy and information. Open system have varying degrees of input and gives back output in form of matter, energy and information.

The concepts of Kenny‟s open system model are input, throughput, output and feedback. Input refers to matters and information, which are continuously processed through the system and released as outputs. After processing the input, the system returns output (matter and information) to the environment in as altered state, affecting

the environment for information to guide its operation. This feedback information of environment responses to the systems output is used by the system in adjustment correlation with the environment. Feedback may be possible, negative or neutral. In this study the concepts have been modified as follows.

INPUT:-

According to J.W. Kenny"s input can be matter, energy and information from the environment. In the present study the input refers to the assessment of quality of sleep among elderly in control and experimental group.

THROUGHPUT:-

Throughput was the implementation of therapeutic back massage for four weeks. Each week 15 minutes of massage session was provided for 8elderly.

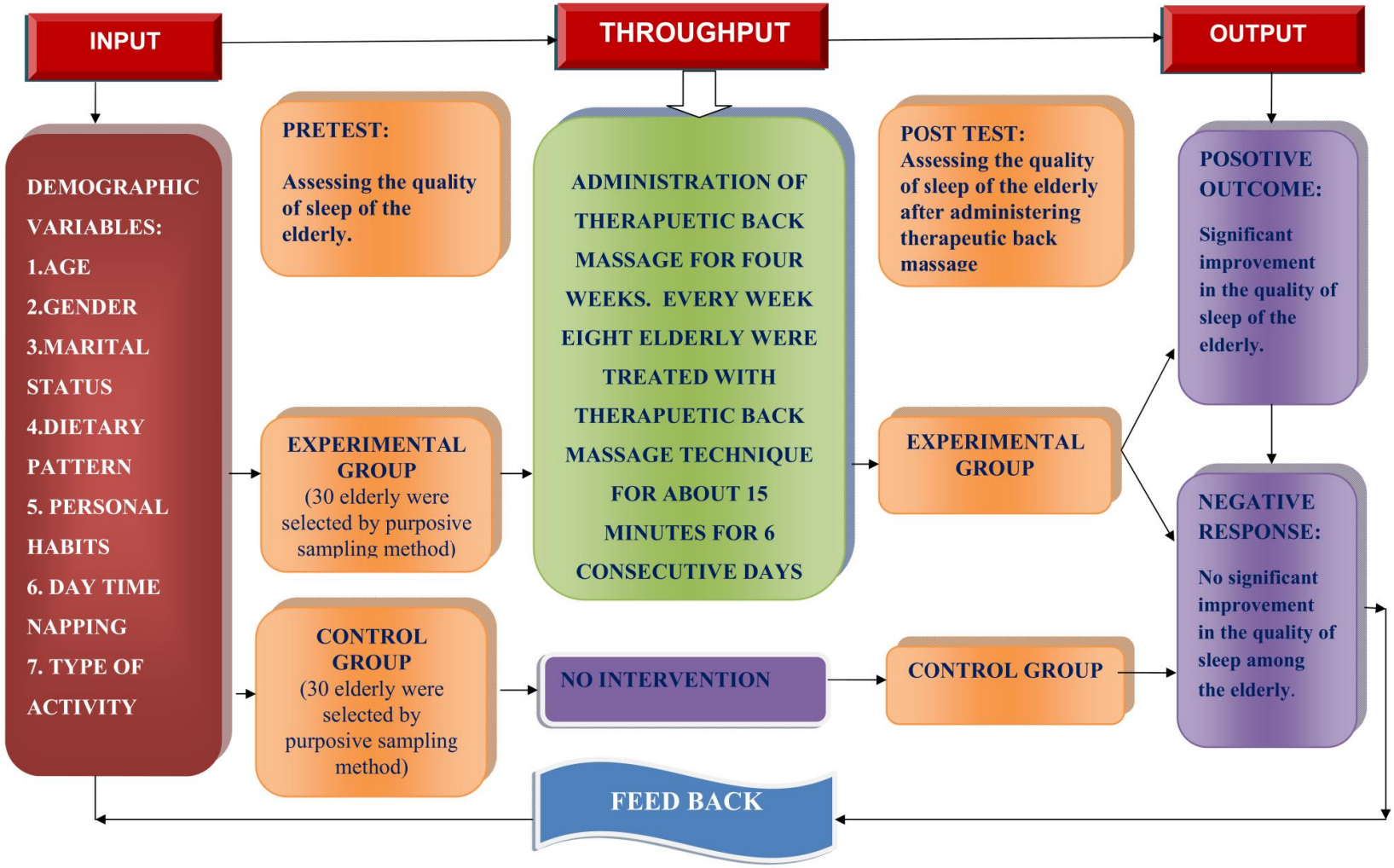
OUTPUT:-

The expected outcome was obtained by assessing the quality of sleep through MEDICAL OUTCOME STUDY- SLEEP scale. The output was considered in terms of change in Post-test quality of sleep through MEDICAL OUTCOME STUDY- SLEEP scale.

FEEDBACK:-

Differences in pre and post-test scores were observed from the quality of sleep scores of the sample. In the present study, the feedback considered as a process of maintaining the effectiveness of therapeutic back massage. Feedback was based on the analysis of post-test scores, the intervention strategy can be modified if necessary and the same pattern can be followed once again.

FIGURE 1: CONCEPTUAL FRAME WORK BASED ON MODIFIED J.W KENNY'S OPEN SYSTEM MODEL



CHAPTER II

REVIEW OF LITERATURE

A literature review is an assessment of a body of research that addresses a research question.

(Harvard graduate school of education)

A **literature review** is a text of a scholarly paper, which includes the current knowledge including substantive findings, as well as theoretical and methodological contributions to a particular topic. Literature reviews use secondary sources, and do not report new or original experimental work.

(Baglione, L. 2012)

The review of literature is classified under the following:

1. Literature related to poor quality of sleep among elderly
2. Literature related to the use of therapeutic back massage on improving quality of sleep among elderly

1. **Literature related to poor quality of sleep among elderly.**

HJ Denison, **KA Jameson**, et al., **(2014)** an epidemiological study was conducted to assess the poor sleep quality and physical performance in older adults. The study was done on 443 samples of both men and women aged 71–80 years, community dwelling older adults in united kingdom. Sleep quality was assessed using the validated Pittsburgh Sleep Quality Index (PSQI). The PSQI is a 10-item questionnaire that

assesses a variety of factors related to sleep quality, and results in a global score where >5 is indicative of poor sleep quality. Completed questionnaires were returned by 373 (84%) participants. 153 (41%) of these participants had a PSQI score of >5, indicating poor sleep. Men, but not women, who reported poor sleep had a significantly lower SPPB (short physical performance battery) score (≤9). (age, smoking, alcohol, social class and BMI) (OR 2.42, 95% CI 1.14, 5.14, p = 0.022). The study concluded that community dwelling older adults were having poor quality of sleep with poor physical performance.

Nethaji.G., Lalitha P., (2014) A Descriptive Study was conducted to Assess the Quality of Sleep among the Elders Residing at Selected Old Age Homes, Salem. Sleep and rest are basic human needs essential to all individual's physical and psychological wellbeing. About one third of our lives are spent in sleeping. The purpose of sleep is a mystery; however it is necessary for good health and a sense of wellbeing. Sleep disturbances are the most common mental disorders reported among the older people in various countries. Thus, investigator felt the present study provide the information about the Quality of Sleep among elders residing at old age homes, Salem. The design adopted was descriptive research design. 60 elders were drawn from Henry old age home and Saradha old age home by non-probability, convenient sampling technique. The level of quality of sleep was assessed by using a Modified Pittsburgh Quality of sleep index scale. The data gathered were analyzed by using both descriptive & inferential statistics. The findings revealed that 3(5%) of them had good quality of sleep, 29(48.33%) of them had fair quality of sleep and 28(46.67%) of them had poor quality of sleep, There was significant association between the quality of sleep among elders with their selected demographic variables like marital status (λ 2=12.56), educational status (λ 2=21.38), and duration of stay (λ 2 = 14.39). Hence

the Null hypothesis is rejected, for the above mentioned demographic variables. The result of this study showed that most of the elders had fair and poor quality of sleep.

AK Rashid, AM Azizah, (2013), a cross sectional study was conducted among consenting residents of a non-governmental charity old folks home in Penang, Malaysia. The sleep quality of the respondents was measured using the PSQI. Data was analysed using PASW. The objective of this study was to determine the sleep quality of older adults residing in a private elderly care institution in Malaysia. Lack of sleep has been linked with increased morbidity and mortality. The PSQI score ranged from 0 to 16 with a mean score of 7.1 (SD 3.4). 76.8% (116) had scores ≥5. The differences in the mean score for chronic illness (p=0.04), the people that could be counted on for help (p=0.02) and the feasibility of getting practical help from fellow residents (p=0.01) were statistically significant. Linear regression showed that the quality of sleep is better as the attitude towards ageing (p=0.01) and the quality of life of the respondents are positive (p<0.01). It is imperative that care givers understand the importance of sleep hygiene in the wellbeing of the residents.

Jianfeng Luo et al, (2013), an epidemiological study was conducted on Prevalence and Risk Factors of Poor Sleep Quality among Chinese Elderly in an Urban Community. Sleep disorders causes a significant negative effect on mental and physical health, particularly among the elderly. The disease burden and risk factors of poor sleep quality of the elderly need to be verified using a validated form of measurement in urban mainland China. This study included 1086 community residents aged ≥60 years who completed the Chinese version of the Pittsburgh Sleep Quality Index (CPSQI). Poor sleeper was defined by a CPSQI global score of >5. A history of chronic diseases was confirmed by the medical records of each participant.

Results: The prevalence of poor sleep quality in this population was 41.5% (95% confidence interval (CI) = 38.6–44.5%), with a higher rate observed in elderly females (45.8% [95% CI = 41.9–49.7%]) than that in elderly males (35.8% [95% CI = 31.4–40.1%]). The prevalence rate increased with age, from 32.1% (95% CI = 27.8–36.4%) in those aged 60–69 years to 52.5% (95% CI = 45.9–59.1%) in those aged ≥80 years (p value for trend<0.001). Multivariate logistic regression analysis indicated that age (OR = 1.03[95% CI = 1.01–1.05], p<0.001), less education duration (OR = 1.04 [95% CI = 1.01–1.08, p = 0.014), living alone (OR = 1.62 [95% CI = 1.02–2.58], p = 0.04), anxiety (ZSAS score: OR = 1.09 [95% CI = 1.05–1.12], p<0.001), number of chronic disease (OR = 1.18 [95% CI = 1.07–1.30], p = 0.14) and arthritis (OR = 1.45[95% CI = 1.05–2.01], p = 0.025) were risk factors of poor sleep quality. Conclusions: Poor sleep quality is highly prevalent among elderly Chinese residents in urban Shanghai. Growing attention and comprehensive counter measures involving psycho-social and personal activities might alleviate the sleep problem in the elderly.

Rao. DP, et. al., (2012), a cross-sectional study conducted among permanent elderly residents of Mugalur village near Bangalore. An interview schedule based on a validated insomnia-screening questionnaire was developed for the purpose of this study and administered to the study population. To assess the prevalence of insomnia among the elderly residents of a rural area and to identify associations between insomnia and selected baseline variables. Insomnia has been reported as a common health problem among the elderly. Among the 92 elderly studied, insomnia was prevalent in 13.04%. Among those with insomnia, 50% had parasomnias, 33.3% had circadian rhythm disturbances, 16.7% had sleep apnoea requiring further evaluation and 8.3% had movement disorders. A higher proportion of those that were currently

unemployed, widowed, dependants, hypertensives, and diabetics, had urinary disturbances or had joint pains were suffering from insomnia. Conclusion of the study is that the Prevalence of insomnia was 13.04%, with no significant associations.

Samhita Panda, Arun B Taly, (2012), a cross-sectional study conducted at the National Institute of Mental Health and Neurosciences, Bangalore, with 50 elderly samples. The objective of the study is to estimate SRDs in an apparently healthy South Indian population. Data was collected by administering a questionnaire including Sleep Disorders Proforma, Epworth Sleepiness Scale, and Pittsburgh Sleep Quality Index (PSQI) to 1050 apparently healthy attendants /relatives of patients attending a tertiary healthcare institution. The mean age of the respondents was 65.1±8.7 years with even gender distribution (male: female; 29:21), work hours were 3.8±1.33 h and had regional representation from the southern Indian states. The majority of the respondents did not report any significant medical/psychiatric co-morbidities, hypertension was noted in 42.6%, in one-fourth, the body mass index (BMI) was >25, and in 7.7% the neck size was >40 cm. Daily tea (70.3%) and coffee (17.9%) consumption was common and 22.2% used tobacco. Average time-to-fall-asleep was 22 min (range: 5-90 min), average duration-of-actual-sleep was 7 h (range: 3.5-9.1 h) with the majority (93.8%) reporting good-quality sleep (global PSQI ≤5). The reported rates of SRDs varied between 20.0% and 34.2% depending on the instrument used in the questionnaire. Insomnia, sleep-related breathing disorders (SRBD), narcolepsy, and restless legs syndrome (RLS) were reported by 18.6%, 18.4%, 1.04% and 2.9%, respectively. Obesity was not strongly associated with SRBD. in 51.8% of subjects with SRBD BMI was <25 kg/m^2 . Of the respondents with insomnia, 18% had difficulty in initiating sleep, 18% in maintaining sleep and 7.9% had early morning awakening. Respondents attributed insomnia to depression (11.7%) or anxiety (2.5%). Insomnia was marginally high in females when compared to males

(10.3% vs. 8.3%) and depression was the major reason. RLS, which was maximal at night, was responsible for delayed sleep onset (74.2%). Other SRDs included night terrors (0.6%), nightmares (1.5%), somnambulism (0.6%), and sleep-talking (2.6%). Family history of SRDs was present in 31.4% respondents. While, only 2.2% of the respondents self-reported and acknowledged having SRD, health-seeking was extremely low (0.3%). The study concluded that SRDs are widely prevalent in India. Considering the health implications and poor awareness, there is a need to sensitize physicians and increase awareness among the public.

Suri J.C., et al, (2009), A questionnaire based survey was conducted to determine the prevalence of common sleep-related disorders in the elderly population of Delhi. The study population included in this analysis comprised 1240 grandparents of school-going children. The overall prevalence of SDB was 10.3%.; (9.9% in males and 10.8% in female subjects) It was found to correlate with increasing BMI ($p< 0.064$) The overall prevalence of snoring was found to be 41.4% (Males=41.6%, Females =41.2%). It correlated positively with body mass index (BMI) ($p<0.033$), age ($p<0.076$), and excessive daytime sleepiness ($p<0.036$). Habitual snoring was found to be prevalent in 27.2% of the elderly subjects and was found to correlate with BMI ($p<0.03$), and rising socio-economic strata ($p<0.014$). Approximately 41.5% of the elderly population was seen to suffer from excessive daytime sleepiness. It correlated significantly with lower socio-economic strata The overall prevalence of symptoms suggestive of restless leg syndrome was 14.3%. It was found to correlate significantly with BMI ($p<0.018$), and female gender ($p<0.052$) The overall prevalence of sleepwalking in the elderly population studied was 6.9%. It was found to correlate negatively with increasing BMI ($p<0.041$) and age and positively with rising socio-economic strata ($p<0.076$). The prevalence of nightmares in the elderly population

studied was 21.7%. It was found to correlate inversely with age ($p<0.019$). Bruxism was observed to be present in 9.2% of the elderly population studied. It correlated significantly with rising socio-economic strata ($p<0.017$) and snoring ($p<0.002$). Approximately 8% of the entire elderly study population admitted that they consumed sleeping pills. Its use correlated with rising socio-economic strata ($p<0.033$) and symptoms suggestive of disorders of initiation & maintenance of sleep (DIMS) ($p<0.072$).

Michael V Vitiello, et al, (2005), a descriptive study was conducted on Age-related sleep change: Gender and estrogen effects on the subjective–objective sleep quality relationships of healthy, non complaining older men and women in united states of America. The sleep of a large group of healthy older men and women was studied in an effort to better understand the relationship between self-reported subjective and objectively measured sleep quality. In the study they have examined the baseline subjective and objective sleep quality of 150 healthy older (67.5±0.5) men (*n*=55) and women (*n*=95). Subjects were carefully screened to exclude sleep disorders and did not complain of significant sleep disturbance. Results: Despite their non complaining status, significant proportions of both women (33%) and men (16%) endorsed Pittsburgh Sleep Quality Index (PSQI) scores of >5, a criterion indicative of significant sleep disturbance. When examined as a function of this criterion, objective sleep was significantly impaired with longer sleep latency, less total sleep time, and lower sleep efficiency, for the high-PSQI (H-PSQI) men compared to low-PSQI (L-PSQI) men.

Xianchen Liu, MD, (2005), a cross sectional survey was conducted on Sleep Habits and Insomnia in a Sample of Elderly Persons in China, Study Objectives was to

examine sleep habits, insomnia, and hypnotic use in the elderly in China. The study was done at 5 cities of Shandong, mainland China in 1997. Among 1,820 individuals aged 65 and older who were sampled, 1,679 (92.2%) were interviewed at home, including 770 men and 909 women. Measurements: A sleep and demographic questionnaire that included the Pittsburgh Sleep Quality Index was used for interviews. Results: Average bedtime of participants was 9:18 PM (SD = 2.2 hours), and morning rise time was 5:42 AM (SD = 1.0 hour). Reported night sleep duration was 7.1 hours (SD = 1.6) without age and sex differences. Regular napping was more common in men than in women (44.2% vs 28.0%). Of the sample, 32.9% reported frequent insomnia symptoms, and 8.9% had insomnia symptoms with daytime consequences. Multivariate analysis indicated that age 75 years and older (odds ratio = 2.0), female sex (odds ratio = 1.4), unmarried status (odds ratio = 1.7), frequent napping (odds ratio = 1.5), and poor perceived health (odds ratio, = 2.1) were associated with elevated risks for insomnia. Hypnotic use during the past month was reported by 6.5% of the sample; women were 2 times as likely as men to use hypnotics. Conclusion: Sleep patterns in Chinese elderly may be characterized by going to bed early and waking up early. Insomnia symptoms are as common among Chinese as among Western elderly. Further study is warranted to examine the association between insomnia and aging in Chinese elderly.

F. Hoha~en et al, (2002), an epidemiological study was done on analyzing the prevalence of insomnia in elderly general practice attenders and the current treatment Modalities in south korea**,** This study aimed to assess the prevalence and treatment modalities of elderly practice attenders. A total of 330 patients aged over 65 years were investigated with a questionnaire in general practice. Twenty-three percent of the elderly patients suffered from severe, 17 from moderate and 17 from mild

insomnia. More than 80% ofthe patients reported suffering from insomnia for 1-5 years or longer, which indicates a chronic course. Elderly patients showed unrealistic expectations concerning duration of sleep and spend more time in bed than they realistically can expect to sleep. More than half of the elderly patients reported habitual daytime napping. Sleep-disturbed elderly patients did not differ significantly from good sleepers in their habit of taking daytime naps, but even when taking daytime naps, good sleepers slept significantly longer than the sleep-disturbed patients. In about half of the cases the primary care physician was not aware that the elderly patient suffered from severe insomnia. More than half of the elderly severe insomniacs took prescribed hypnotics habitually, mainly benzodiazepines.

2. **Literature related to the use of therapeutic back massage on improving quality of sleep among elderly**

Gayathri J Nair, Swapna Dennis (2014) A Quasi experimental study has been carried out to determine the effectiveness of therapeutic back massage on the quality of sleep among 60 elderly people in the selected old age homes in Mangalore, Karnataka, India. Setting of the study was St Ann's poor homes, mangalore, Karnataka. Subjects were selected by purposive sampling technique and randomly assigned to experimental and control group (30 samples each). The pre test quality of sleep was assessed by using medical outcome study sleep scale. Therapeutic back massage was provided prior to sleep for 10 -15 minutes for 6 consecuetive days. The calculated mean for experimental group is 6.266 and the mean for control group is 0.033. Thus the calculated table value is 9.522 which was greater than the table value t= 1.67. Since the calculated value is more than the table value, the research hypothesis stated that there was a significant difference in the quality of sleep

between the experimental and control group was accepted. The study found that there was significant difference 6.23 ($p < 0.05$) and improvement ($F= 80.463$, $p< 0.05$) in the quality of sleep of elderly among experimental and control group. The study concluded that therapeutic back massage was effective to promote the quality of sleep among elderly population.

Shanna Arno, (2014), A controlled month long study was done to assess the effectiveness of massage on stress and sleep on elderly by the university of Auckland department of psychology. A group of 100 samples were selected by means of purposive sampling method, 50 in each control and experimental group. The experimental group were treated with back massage for 15 minutes for three days in a week. They proved that "compared to control participants , massage participants exhibited greater improvements in migraine frequency and sleep quality during the intervention weeks and the three follow up weeks. Prior to intervention experimental group showed poor quality of sleep PSQI score of >5, (OR 5% CI 1.14, 5.14, $p = 0.022$). And after intervention with back massage experimental group showed significant difference in quality of sleep, (PSQI ≤5) (95% CI 0.01, 0.59, $p < 0.042$). Trends for beneficial effects of massage therapy on perceived stress and coping efficacy were observed. During sessions, massage induced cortisol, statistics showed improved quality of sleep among the back massage group. Initial analysis showed a significant difference among the three groups in sleep efficacy index.

Kabul tarihi (2012) A a quasi-experimental study was conducted on Effect on Sleep Quality of Back Massage in Older Adults in Rest Home. Sleep disturbances are very common in elderly people. Back massage a non invasive technique has been used to promote health and increase comfort recently. The Objectives of the study is to

investigate the effect of back massage on sleep quality in older people who had poor quality of sleep in a rest home. This research was carried out in a rest home in İzmir, Turkey. The sample of the study was composed of 33 older persons. Research data were collected by using Elderly Information Form, Pittsburgh Sleep Quality Index (PSQI), Sleep Log and Pittsburgh Sleep Quality Index for three days. The older people received 10 minutes of back massage in their beds prior to bedtime over three alternate days by the same researcher. Results: The subjects' PSQI total mean scores were lower before massage (11.87 ± 2.11) than on the days when the massage (9.78 ± 2.17) was done (t = 8.07, p = .000). It was found that the massage increased the participants' quality of sleep. Conclusion: The findings of this study indicated that back massage has a positive effect on improvement of sleep quality. The findings provide evidence for the use of back massage for sleep in older people.

Ngang Roland, (2012), a quasi experimental study was conducted to assess Sleep disturbance among elderly people in Nursing home: A non pharmacological approach. Sleep disturbance is a common complaint among elderly people living in nursing home. The purpose of the study is to bring to time line what needs to be done in promoting health through empowerment strategies among elderly people suffering from sleep disturbance. The study was guided by Derek Chambers & Susan Thompson (2008) theory of Empowerment to enable the author achieves the objectives. Certain non pharmacological intervention approaches yielded great significance to promote sleep in elderly people. They include; sleep restriction, stimulus control, relaxation therapy, scheduled bright light, incontinence management, aromatherapy, bed massage, music, acupressure, Tai Chi program and aerobic exercises. Among all the other interventions, massage was also done to treat sleep disturbances and the Pittsburgh Sleep Quality Index Scale and Sleepless

Depression Scale were used to evaluate patient symptoms. They concluded that there was a significant improvement in 86% of the cases, similar to the trend observed in this study. And 14% of the cases showed no significant improvement. Among all the other interventional results, massage showed a high significant improvement hence bed massage is considered as the best intervention to induce sleep among elderly.

Denise Oliveira, Helena Hachul,et.al., (2011), A quasi experimental study was conducted to assess the effect of massage in postmenopausal women with insomnia at brazil. The objective of this pilot study was to evaluate the effect of therapeutic massage on insomnia, depression, and anxiety through subjective and objective parameters in postmenopausal patients with insomnia. Insomnia is highly prevalent and affects between 28% and 63% of postmenopausal women. The search for complementary therapies is increasing, massage therapy being among these. In this study, we selected seven postmenopausal women with insomnia: difficulty in falling sleep or insomnia symptoms for at least three times a week mean age SD: 56.28, 1.97(SD), range 50 to 65 years, mean body-mass index (BMI 30 kg/m2). The study was approved by the Ethical Committee of the Federal University of Sao Paulo (CEP#0408/07). Inclusion criteria required that individuals be in post menopause (at least 1 year of amenorrhea before enrolment and an FSH level above 30 mlU/mL), Exclusion criteria were serious health problems and use of antidepressants or sleep-inducing aids. These volunteers were submitted to sixteen one-hour sessions of massage twice weekly and evaluated on psychological and physiological parameters. Forty-four volunteers were randomly distributed into three groups: therapeutic massage (TM), passive movement (PM) and control (CTL). The women received 32 therapeutic massage sessions and passive movement twice a week. Questionnaires were given in the pre-trial and the 16th and 32nd sessions. The Insomnia Severity

Index (ISI), Beck Anxiety Inventory (BAI), Beck Depression Inventory (BDI), Menopause Quality of Life questionnaire (MENQOL), Kupperman Menopausal Index and Lipp Symptoms of Stress Inventory were assessed. In addition, the women underwent polysomnography at baseline and post-treatment. Statistical analyses were calculated using Friedman and Wilcoxon non-parametric tests. The level of significance was fixed at $p \leq 0.05$. Results There was an improvement in ISI in the TM group ($p = 0.000$) and in the PM group ($p = 0.001$). A decrease in the BDI occurred in the TM group ($p = 0.004$), and the MENQOL improved in the TM group ($p = 0.015$). Furthermore, there were no significant differences in polysomnography parameters in the TM group, with only an increase in minimal saturation ($p = 0.053$). Conclusion The TM group exhibited improved subjective data considering the changes in symptoms according to the ISI and the MENQOL and a decrease in symptoms according to the BDI

Rhonda Nelson, (2010), a pilot study was conducted on Using Massage to Reduce Use of Sedative-Hypnotic Drugs with Older Adults**.** Despite known adverse effects, sedative-hypnotic drugs (SHDs) are widely used in institutional settings serving the elderly. Using a 2 (Intervention, Control) × 3 (Baseline, Intervention, Withdrawal) mixed design with random assignment to the intervention ($n = 15$) or control ($n = 13$) group, the authors sought to determine if a non pharmacological sleep intervention (massage at bedtime) could reduce "as-needed" SHD (PRN-SHD) usage. Each phase of this pilot lasted 7 days and PRN-SHD usage was monitored via chart review. Results, indicating a 13% greater reduction in requests for PRN-SHD for the intervention group when it received massage, approached statistical significance for the quadratic planned comparisons ($p = .17$) despite limited power (.28) for the observed effect size of .07. While preliminary, results suggest that massage at bedtime

may reduce PRN-SHD usage with older adults. Randomized controlled studies with larger samples are needed.

Lincy Joseph, (2007), An evaluative study was conducted to determine the efficacy of back massage on improving sleep among institutionalized elderly in a selected old age home in Karnataka. The study was conducted among thirty elderly (22 female and 8 men). Using pre experimental one group pre test Post-test design. Interview technique was used as a method of data collection. It was found that (53%) of the elderly had poor sleep quality score and remaining (46.7%) had fairly good sleep quality before back massage. The mean score of sleep quality before and after massage were 9.5 and 7.5 respectively. Comparison of sleep quality scores before and after massage showed significant improvement of the sleep quality scores after back massage.

Ancy Vincent, (2005), conducted a true experimental study to assess the effectiveness of therapeutic back massage vs music therapy in improving the quality of sleep among elderly living in nursing homes of Karnataka. The sample size was 80, (experimental 40, control 40), in which 20 elderly in experimental group were treated with music therapy and 20 elderly were treated with back massage therapy. The age group of the samples were 60 to 80 years. The tool used for the study was scale for general pattern of sleep (SGPS) And subjective assessment of quality of sleep scale (SAQS). The back massage group showed good improvement in the quality of sleep 80% where as the music therapy group showed a moderate improvement in the quality of sleep 61%. Therefore the study concluded that back massage is effective in improving the quality of sleep among elderly.

Chen, M.L., et.al, (2002). A quasi experimental study was conducted on the effectiveness of slow back massage in improving the quality of sleep of institutionalized residents at taiwan. Elderly people often suffer from disturbed sleep. Because traditional Chinese medicine indicates that slow back massage therapy may induce sedation, testing the effectiveness of acupressure in enhancing the quality of sleep of institutionalized residents with a well-designed scientific study is needed. A randomized block experimental design was used. The Pittsburgh Sleep Quality Index (PSQI) questionnaire was used as a screening tool to select subjects with sleep disturbance. By matching the effects of hypertension, hypnosis, naps, and exercise, subjects were randomly assigned to an slow back massage group, a sham slow back massage group, and a control group. Each group had 28 subjects for a total of 84 subjects. The same massage routine was used in the slow back massage group and the sham acupressure group, whereas only conversation was employed in the control group. However the variance was significantly different among the 3 groups, and the reanalysis of data with only 17 subjects in each group revealed no difference among groups (p= 0.05). There were significant differences in PSQI subscale scores of the quality, latency, duration, efficiency, disturbances of sleep, and global PSQI scores among subjects in the three groups before and after interventions. Furthermore, there was a significant reduction in the frequencies of nocturnal awakening and night wakeful time in the acupressure group compared to the other two groups. This study confirmed the effectiveness of slow back massage in improving the quality of sleep of elderly people and offered a non pharmacological therapy method for sleep-disturbed elderly people.

CHAPTER – III

METHODOLOGY

This chapter deals with the research approach, research design, variable under study, setting of the study, population, criteria for sample selection, sample size, sampling technique and development of the tool for data collection, content validity, reliability, pilot study, data collection procedure, plan for data analysis and protection of human subjects.

Methodology is the systematic, theoretical analysis of the methods applied to a field of study. It comprises the theoretical analysis of the body of methods and principles associated with a branch of knowledge. Typically, it encompasses concepts such as paradigm, theoretical model, phases and quantitative or qualitative techniques.

Irny S.I. and Rose A.A. (2005)

The methodology of research indicates the general pattern for organizing the procedure of gathering valid and reliable data for an investigation. This chapter deals with a brief description of methodology adopted for the study. The contents included in this chapter are research approach, research design, the setting, the sample and sampling techniques, description of tools, data collection procedure and the plan of data analysis for the present study.

The present study was carried out to evaluate the effectiveness of therapeutic back massage on the quality of sleep among elderly in lion's club old age home in Erode.

RESEARCH APPROACH:

A Research Approach is selected to accomplish the objectives of the study. Since the purpose of the study was to evaluate the effectiveness of therapeutic back massage on the

quality of sleep among elderly, **Experimental approach** was considered to be most appropriate.

RESEARCH DESIGN:

A research design are invented to enable the researcher to answer research questions as validly, objectively, accurately and economically as possible.

(Polit and Beck 2005)

The research design used for the present study was pre-test and post-test control group design which is a "**Quasi Experimental Design**" used to measure the effectiveness of therapeutic back massage on the quality of sleep among elderly.

The quasi experimental research design lacks atleast one of the properties that characterize true experiments randomization, control group and manipulation

(Polit and Hungler, 1999).

This study had control group, experimental group and manipulation but randomization was not done. In this design the experimental group received the intervention stratergy, but the control did not receive the intervention stratergy.

The research design used in the study was pre-test, post-test control group design to determine the effectiveness of intervention strategy.

Research design adopted can be represented as:

Group	**Pre test**	**Intervention**	**Post-test**
Experimental	O_1	X	O_2
Control	O_1	-	O_2

O_1 - Pre–test assessment of quality of sleep.

X – Administration of 15 minutes of therapeutic back massage.

O_2 - Post-test Assessment of quality of sleep.

VARIABLES UNDER STUDY

A variable, as the name implies, is something that varies. A variable is any quality of an organism, group or situation that takes on different values. Variability in the dependent variable is presumed to depend on variability in the independent variable.

(**Polit and Hungler, 1999)**

Variables are characters that can have more than one value. The categories of variables discussed in the present study are:

The **Independent variable**: The variable that is believed to cause or influence the dependent variable.

In the present study the independent variable is **therapeutic back massage**.

The **Dependent variable**: The variable hypothesized to depend on or intended to change by the variable (the independent variable).

In the present study the dependent variable is **quality of sleep**.

SETTING OF THE STUDY:

Study setting is the general physical location in which data collection takes place

(Polit & Beck 2004).

The present study was undertaken in **Lion's club old age home** which is located about 15 kms from Erode in Pichandampalayam, Perundurai Road, Erode. The Old Age Home comes under the Lion s Club of Erode Mid Town Charitable Trust. It was

started with an ultimate purpose to provide services to the elderly. Currently there are about 300 inmates in the old age home.

POPULATION:

Population refers to the entire aggregation of cases that meets the design criteria.

(Polit and Beck, 2002)

In the present study population comprises of the **elderly living in old age homes**, in Erode.

SAMPLE:

Sample is a subset of population selected to participate in a research study.

(Polit and Hungler, 1999)

The samples for this study were Elderly with sleep disturbances residing at Lion s club old age home, Erode.

SAMPLE SIZE:

The sample size used for the study was **60 elderly with sleep disturbances, 30 of each in experimental and control group.**

SAMPLING TECHNIQUE:

Sampling is the process of selecting a portion of the population who represent the entire population**.**

(Polit and Beck, 2001)

In the present study the sample selection was done by **Non Randomised Purposive sampling technique**. Sometimes called as "judgemental or theoretical sampling" involves subjects conscious selection by the researcher of certain elements to include in the study. **(Burns and Susan, 1999).** The elderly in lion's club old age home, who met the inclusion criteria were taken as sample.

CRITERIA FOR SAMPLE SELECTION:

The Samples for the study were selected on the basis of the following criteria.

Inclusion criteria

- ✓ Elderly with sleep disturbances for the past one month.
- ✓ Those who were willing to participate in the study.
- ✓ Both male and female in the age group of 60 years and above.

Exclusion criteria

- ✓ Those who were taking treatment for sleep disturbances.
- ✓ Those who were having other sleep disorders.
- ✓ Those who were having chronic illness.

SELECTION OF RESEARCH TOOL

Research Tools or tools are ways of gathering data. Without them data would be impossible to put in hand which is used by the researcher to observe or measure the key variables in the research problem. The major task of the researcher is to select Tools most accurately.

The Tool used in the study was **Medical Outcome Study Sleep Scale** to assess the quality of sleep among elderly in Lion s club old age home, Erode.

METHOD OF DATA COLLECTION:

Interview method was used for data collection.

DATA COLLECTION TOOL:

The Tool was selected by the investigator based on the objectives of the study, after reviewing the literature about poor quality of sleep among elderly.

The following steps were carried out in selecting the tool

- A review of the research and non-research literature done in the areas, related to effect of therapeutic back massage on the quality of sleep among elderly.
- Opinion of experts was sought to ascertain the clarity and appropriateness of the items.
- Informal discussions were held with concerned experts. This helped to identify the items to be included.
- Professional experience of the researcher in Medical Surgical Nursing field helped in determining the areas to be included.

DESCRIPTION OF THE TOOL:

The Tool used for data collection is Medical Outcome Sleep Study Scale to evaluate the quality of sleep among elderly.

The study tool consists of two sections as follows:

Part I

Demographic Data: Contents included are the demographic questionnaire which will be used to assess the demographic variables like age,

gender, marital status, dietary pattern, personal habits, day time napping and type of activity.

Part II

Medical Outcome Study Sleep Scale:

To assess the quality of sleep among elderly with sleep disturbances. This scale was developed by RD Hays and AL Stewart, Medical Outcomes Trust, Boston. The scale Consists of 12 items to measure 6 sleep dimensions: initiation (time to fall asleep), quantity (hours of sleep each night), maintenance, respiratory problems, perceived adequacy, and somnolence (the last 4 items reported using a 6- item Likert scale ranging from "All of the time" to "None of the time"). The time frame for the responses is "the past 4 weeks."

SCORING:

The first item of this scale score ranges from 1-5, where lesser score indicates more problems in initiating sleep. The second item measures about the quantity of sleep where score 1 is given for 6-8 hours of sleep per night and score 0 is given for the sleep lasting, either more than 8 hours or less than 6 hours. The other items 3,5,6,7,8,9,10,11 score ranges from 1-6, which measures the sleep adequacy, where higher score indicates good quality of sleep but for the questions 4 and 12 reverse score is being given. The maximum score is 66 and the minimum score is 11.

The interpretation of the total score was:

QUALITY OF SLEEP	SCORING INTERVAL
POOR QUALITY OF SLEEP	11 TO 29
MODERATE QUALITY OF SLEEP	30 TO 47
GOOD QUALITY OF SLEEP	48 TO 66

TESTING OF THE TOOL

Content validity

The Tools were validated by 5 experts from the field of Medical Surgical Nursing and Medicine. And the tool was adapted as it is for the study.

Reliability of Tool

Reliability of research Tools defined as the extent to which the Tool has the same results on repeated measures.

(**Polit and Beck 2004)**

This standardised scale reliability is r = 0.75 according to the evaluation of Spritzer. K.L. and Hays R.D. during the year 2003.

Demographic variables, medical outcome study sleep scale's tamil version of the tool is tested for its reliability by implementing the tool on 6 patients with poor sleep quality in Lion's club old age home, Erode in the same sample area. The split half method, the Spearman's Browns Prophecy Formula was used to find out the internal consistency of the tool and found to be reliable (r=0.74).

PILOT STUDY:

It is a small scale version or trial run of the main study. In order to test the feasibility and relevance of the study, Pilot Study was conducted among 6 older adults (Control Group – 3, Experimental Group – 3) in a manner in which the final study would be done after getting appropriate permission from concerned authorities. They were selected using Non Randomised Purposive Sampling Method. Data analysis was done by using differential and inferential statistics. It revealed that the study is feasible.

DATA COLLECTION PROCEDURE:

Data collection is the gathering of the information to address the research problem. The word "data" means information i.e. systematically collected in the course of study.

Permission from the concerned authority:

Prior to the collection of data, permission was obtained from the secretary of lion's club old age home, erode.

Data collection process:

Samples were selected by using purposive sampling technique. Elderly who met the inclusion criteria were selected for the study. Demographic data and response to Medical Outcomes Sleep Scale was collected by interview method both in control group and in experimental group to assess the quality of sleep prior to intervention.

For the experimental group four weeks of therapeutic back massage was administered. Each week therapeutic back massage was given for 8 patients for a time period of 15 minutes for 6 consecutive days before sleep in the night. At the end of the week

reassessment of the quality of sleep was done by using Medical Outcome Sleep Study Scale. Likewise, the other samples in the experimental group were re assessed. The quality of sleep was reassessed for the control group using Medical Outcome Sleep Study Scale respectively.

DATA ANALYSIS PLAN:

Data analysis is the systematic organization and synthesis of research data and testing of null hypotheses by using the obtained data.

(Polit & Beck 2004).

The collected data was organized, tabulated and analyzed by using descriptive and inferential statistics. Study was commuted at 0.05 level of significant.

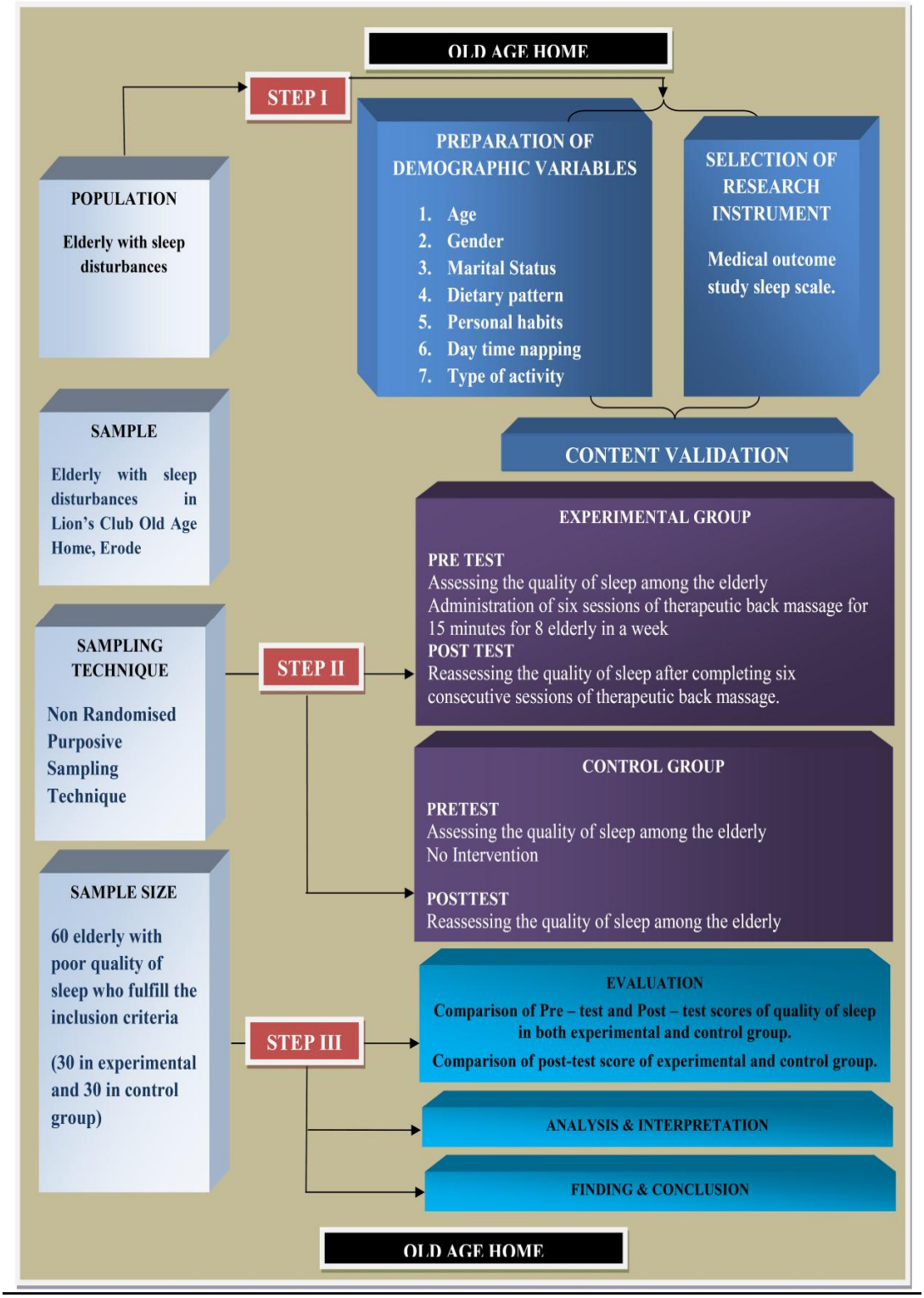
1. To assess quality of sleep before and after therapeutic back massage among experimental and control group **frequency and percentage and mean** were used**.**
2. To evaluate the effectiveness of therapeutic back massage on quality of sleep among elderly were in experimental and control group **paired and unpaired t-test** were used.
3. **Chi-square test** was used to determine the association between the pretest quality of sleep among experimental and control group with their selected demographic variables like age, gender, marital status, dietary pattern, personal habits, day time napping and type of activity. Analyzed data was presented in the form of tables, diagrams, graphs based on the findings.

PROTECTION OF HUMAN SUBJECTS

The proposed study was conducted after the approval of Dissertation committee of the college. Permission was obtained from the Lion s club old age home. Oral consent

was obtained before starting the data collection. Assurance was given to them that anonymity of each individual and confidentiality would be maintained throughout the study. After completion of the study therapeutic back massage was given to control group also

Figure 2 *Schematic Representation of the Research Design of the study*



CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

Analysis is a "process of organizing and synthesizing data in such a way that Research questions can be answered and hypothesis tested"

(Polit and Hungler, 2003)

This chapter deals with the description of the analysis and interpretation of the data collected to evaluate effectiveness of therapeutic back massage on quality of sleep among elderly at Lions club old age home, Erode.

The obtained data were analyzed, tabulated and interpreted by employing descriptive and inferential statistics.

SECTION – I: Findings related to sample characteristics of experimental and control group. The sample characteristics are described in terms of frequency and percentage.

SECTION – II: Assess pretest and posttest score of quality of sleep among subjects in control and experimental group.

SECTION – III: Comparison of pre-test and post-test score of quality of sleep among subjects in control and experimental group.

SECTION – IV: Comparison of mean Post-test score of quality of sleep in control and experimental group.

SECTION - V Association between pre-test quality of sleep score in control and experimental group with selected demographic variables.

SECTION – I

FINDINGS RELATED TO SAMPLE CHARACTERISTICS OF EXPERIMENTAL AND CONTROL GROUP. THE SAMPLE CHARACTERISTICS ARE DESCRIBED IN TERMS OF FREQUENCY AND PERCENTAGE.

TABLE–1 DISTRIBUTION OF SAMPLES IN TERMS OF DEMOGRAPHIC VARIABLES:

This section deals with the participants characteristics of experimental and control group. The sample characteristics are described in terms of frequency and percentage.

SI.NO	CHARACTERISTICS	CONTROL GROUP N=30		EXPERIMENTAL GROUP N=30	
		F	%	F	%
1.	**AGE (IN YEARS)**				
	a. 60 – 65 years	2	7	1	3
	b. 66 - 70 years	14	47	8	27
	c. 71 – 75 years	8	27	14	47
	d. 76 and above	6	19	7	23
2.	**GENDER**				
	a. Male	9	30	7	23
	b. Female	21	70	23	77
3.	**MARITAL STATUS**				
	a. Married	7	23	3	10
	b. Unmarried	3	10	2	7

	c. Widow/ widower	14	47	19	63
	d. Separated	6	20	6	20
4.	**DIETARY PATTERN**				
	a. Vegetarian	8	27	4	13
	b. Mixed	22	73	26	87
5.	**PERSONAL HABITS**				
	a. Consuming alcohol	0	0	0	0
	b. Tobacco use	0	0	0	0
	c. Consuming of tea or coffee	21	70	27	90
	d. None of the above	9	30	3	10
6.	**DAY TIME NAPPING**				
	a. Less than half an hour	2	7	8	27
	b. Half an hour to one hour	12	40	19	63
	c. One to two hours	10	33	3	10
	d. More than two hours	6	20	0	0
7.	**TYPE OF ACTIVITY**				
	a. Heavy activity	1	3	1	3
	b. Moderate activity	7	23	5	17
	c. Sedentary activity	13	43	17	57
	d. No activity	9	31	7	23

The data given in **Table 1,** shows that according to **age,** in control group 2 elderly (7%) were in the age group of 60-65 years, 14 of them (47%) were in the age group of 66-70 years, 8 of them (27%) were in the age group of 71- 75 years and 6 of them (19%) were in the age group of 76 and above years. Whereas in the experimental

group 1 elderly (3%) was in the age group of 60-65years, 8 of them (27%) were in the age group of 66-70 years, 14 of them (47%) were in the age group of 71-75 years and 7 of them (23%) were in the age group of 76 and above years.

With regard to **gender**, in the control group 9 elderly (30%) were male and 21 of them (70%) were female. Whereas in experimental group 7 elderly (23%) were male and 23 of them (77%) were female.

Regarding **marital status**, in the control group 7 elderly (23%) were married, 3 of them (10%) were unmarried, 14 of them (47%) were widows and widowers and 6 of them (20%) were separated. Whereas in experimental group 3 elderly (10%) were married, 2 of them (7%) were unmarried, 19 of them (63%) were widows and widowers and 6 of them (20%) were separated.

In connection with **dietary pattern,** in control group 8 elderly (27%) were vegetarian and 22 of them (73%) were taking mixed diet. Where as in experimental group 4 elderly (13%) were vegetarian and 26 of them (87%) were taking mixed diet.

Concerning the **personal habits,** in control group none of the elderly (0%) were consuming alcohol and tobacco, 21 of them (70%) consume tea and coffee and 9 of them (30%) were not consuming the above mentioned items. Whereas in the experimental group none of the elderly (0%) were consuming alcohol and tobacco, 27 of them (90%) were consuming tea or coffee and 3 of them (10%) were not consuming the above mentioned items

Regarding **day time napping**, in control group 2 elderly (7%) were having naps less than half an hour during day time, 12 of them (40%) were having naps for half an hour to one hour, 10 of them (33%) were having naps for one to two hours and 6 of

them (20%) were having naps for more than two hours. Where as in experimental group 8 elderly (27%) were having naps less than half an hour during day time, 19 of them (63%) were having naps for half an hour to one hour, 3 of them (10%) were having naps for one to two hours and none of them (0%) were having naps for more than two hours.

Regarding **type of activity**, in control group 1 elderly (3%) was performing heavy activity, 7 of them (23%) were performing moderate activity, 13 of them (43%) were performing sedentary activity and 9 of them (31%) were not performing any activity. Where as in the experimental group 1 elderly (3%) was performing heavy activity, 5 of them (17%) were performing moderate activity, 17 of them (57%) were performing sedentary activity and 7 of them (23%) were not performing any activity.

Table - 2. DISTRIBUTION OF SAMPLES IN TERMS OF AGE

S. No	SAMPLE CHARACTERISTICS	EXPERIMENTAL GROUP N= 30		CONTROL GROUP N= 30	
		Freq	%	Freq	%
1.	**AGE**				
	60-65yrs	1	3	2	7
	66-70yrs	8	27	14	47
	71-75yrs	14	47	8	27
	76 and above	7	23	6	19

The data given in **Table- 2,** shows that majority 14 (47%) of the elderly in experimental group were between the age group of 71-75 years. 8 (27%) of them were in the age group of 66-70 years, 7 (23%) of them were in the age group of 76 and above years and 1 (3%) of them was in the age group of 60-65 years. Whereas majority 14 (47%) of the elderly in control group were between the age group of 66-70 years, 8 (27%) of them were in the age group of 71-75 years, 6 of them (19%) were in the age group of 76years and above and 2 of them (7%) were in the age group of 60-65 years.

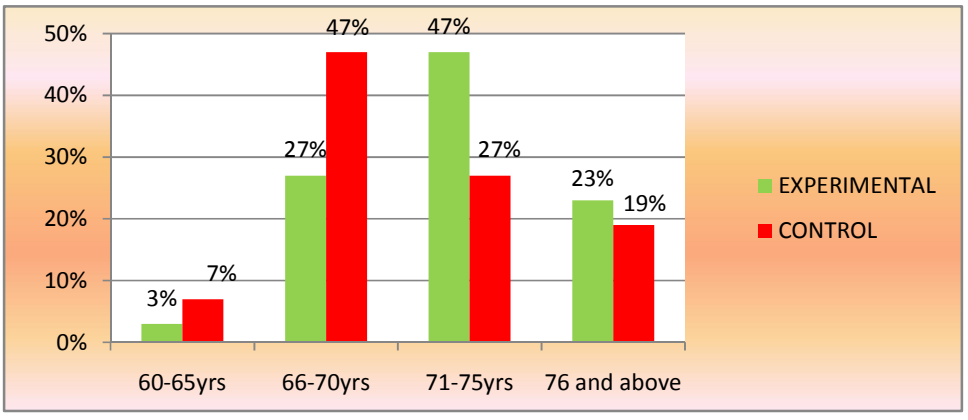


Figure 3: Distribution of samples in terms of age

Table – 3: DISTRIBUTION OF SAMPLES IN TERMS OF GENDER

S. No	SAMPLE CHARACTERISTICS	EXPERIMENTAL GROUP N= 30		CONTROL GROUP N= 30	
2.	**Gender**	**Freq**	**%**	**Freq**	**%**
	Male	7	23	9	30
	Female	23	77	21	70

The data given in **Table 3,** illustrates that majority of elderly in experimental group 23 (77%) were female and 7 (23%) of them were male where as in control group majority of elderly 21 (70%) were female and 9(30%) of them were male.

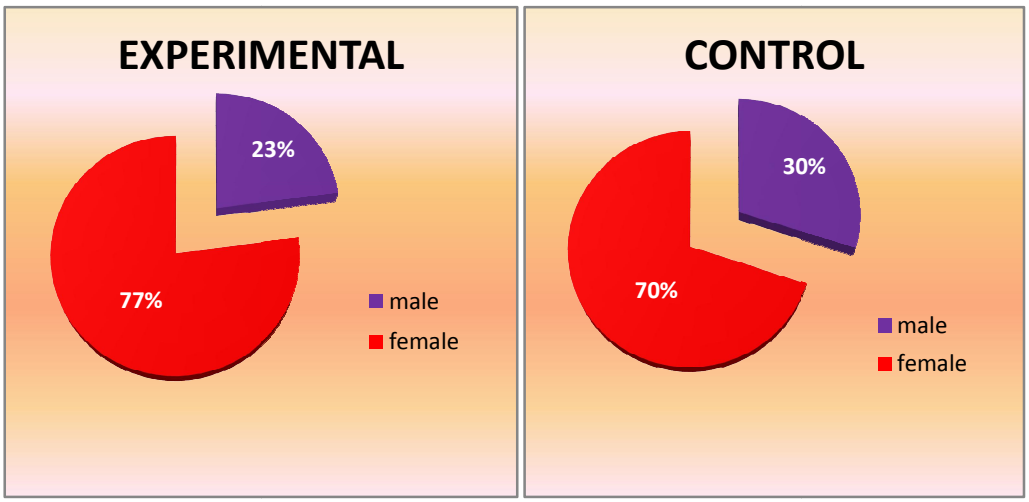


Figure 4 - Distribution of samples in terms of gender

Table - 4. DISTRIBUTION OF SAMPLES IN TERMS OF MARITAL STATUS

S. No	SAMPLE CHARACTERISTICS	EXPERIMENTAL GROUP N= 30		CONTROL GROUP N= 30	
3.	**Marital status**	**Freq**	**%**	**Freq**	**%**
	Married	3	10	7	23
	Unmarried	2	7	3	10
	Widow or widower	19	63	14	47
	Separated	6	20	6	20

The data given in **Table 4,** describes on **marital status**, the majority of the elderly 19 (63%) were widows and widowers, 6(20%) of them were separated, 3(10%) of them were married and 2 of them (7%) were unmarried in experimental group. whereas the majority of the elderly 14 (47%) were widows and widowers, 6(20%) of them were separated, 7(23%) of them were married and 3 of them (10%) were married in control group.

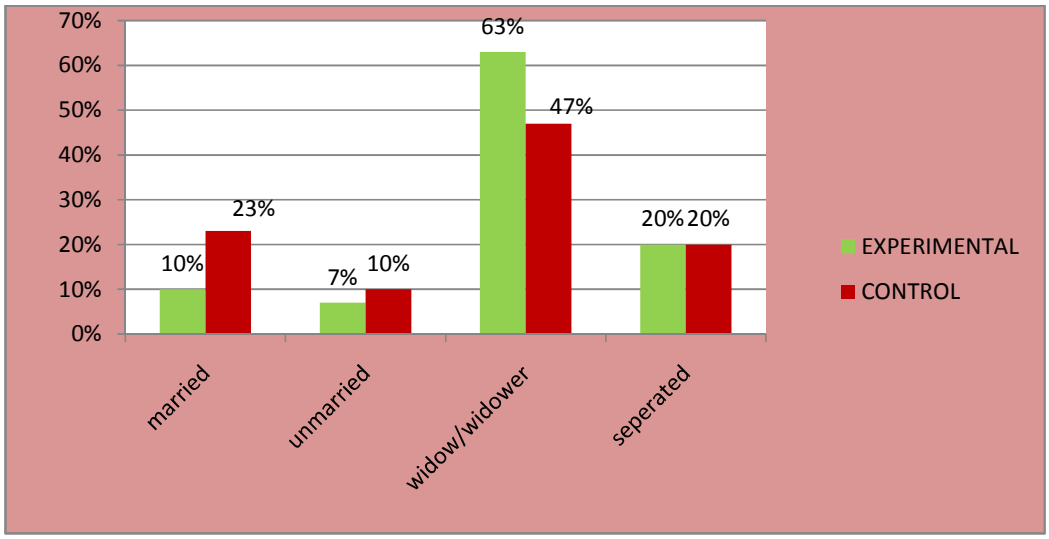


Figure 5 - Distribution of samples in terms of marital status

Table - 5. DISTRIBUTION OF SAMPLES IN TERMS OF DIETARY PATTERN

S. No	SAMPLE CHARACTERISTICS	EXPERIMENTAL GROUP N= 30		CONTROL GROUP N= 30	
4.	**Dietary pattern**	**Freq**	**%**	**Freq**	**%**
	Vegetarian	4	13	8	27
	Mixed	26	87	22	73

The data given in **Table 5,** explains about **dietary pattern,** majority of elderly 26(87%) of them were vegetarians and 4 (13%) were consuming a mixed diet in the experimental group. And in control group, majority of elderly 22(73%) of them were vegetarians and 8 (27%) were consuming a mixed diet.

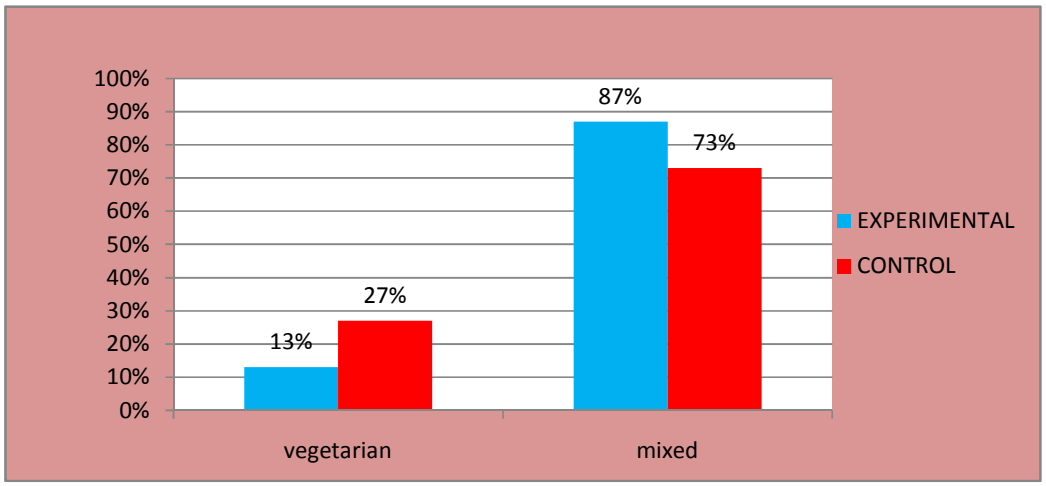


Figure 6- Distribution of samples in terms of dietary pattern

Table- 6. DISTRIBUTION OF SAMPLES IN TERMS OF PERSONAL HABITS

S. No	SAMPLE CHARACTERISTICS	EXPERIMENTAL GROUP N= 30		CONTROL GROUP N= 30	
	Personal habits	**Freq**	**%**	**Freq**	**%**
5.	Consuming alcohol	0	0	0	0
	Tobacco usage	0	0	0	0
	Tea / coffee consumption	27	90	21	70
	None of the above	3	10	9	30

The data given in **Table 6,** describes that according to personal habits, majority of elderly 27 (90%) were consuming tea or coffee, 3 of them (10%) were not having any personal habits and none of the elderly have habits of alcoholism and tobacco use in experimental group where as in control group majority of elderly 21 (70%) were consuming tea or coffee, 9 of them (30%) were not having any personal habits and none of the elderly have habits of alcoholism and tobacco use.

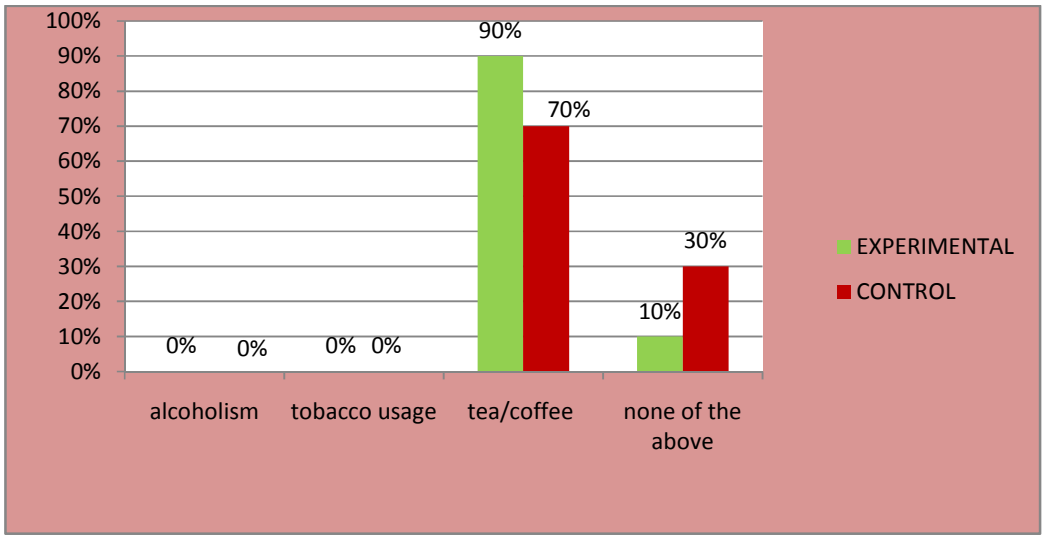


Figure 7 - Distribution of samples in terms of personal habits

Table-7. DISTRIBUTION OF SAMPLES IN TERMS OF DAY TIME NAPPING.

S. No	SAMPLE CHARACTERISTICS	EXPERIMENTAL GROUP N= 30		CONTROL GROUP N= 30	
6	**Day time napping**	**Freq**	**%**	**Freq**	**%**
	Less than half an hour	8	27	2	7
	Half an hour to one hour	19	63	12	40
	One to two hours	3	10	10	33
	More than two hours	0	0	6	20

The data given in **Table 7,** illustrate **day time napping**, majority of elderly 19 of them (63%) were having their naps for half an hour to one hour, 8 (27%) of them were having their naps for less than half an hour, and 3 of them (10%) were having their nap for one to two hours in experimental group. And majority of elderly 12 of them (40%) were having their naps for half an hour to one hour, 10 (33%) of them were having their naps for one to two hours, 6 of them (20%) were having their nap for more than two hours and 2 of them (7%) were having less than half an hour naps in control group.

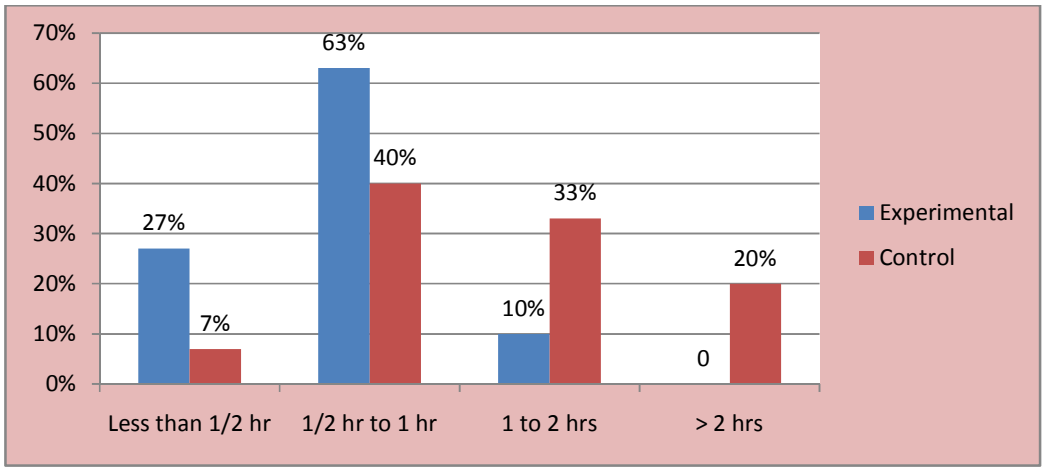


Figure 8 - Distribution of samples in terms of day time napping

Table - 8. DISTRIBUTION OF SAMPLES IN TERMS OF TYPE OF ACTIVITY

S. No	SAMPLE CHARACTERISTICS	EXPERIMENTAL GROUP N= 30		CONTROL GROUP N= 30	
7.	**Type of activity**	**Freq**	**%**	**Freq**	**%**
	Heavy activity	1	3	1	3
	Moderate activity	5	17	7	23
	Sedentary activity	17	57	13	43
	No activity	7	23	9	31

The data given in **Table 8,** shows in experimental group, majority of elderly 17 (57%) were performing sedentary activity, 7 of them (23%) were not performing any activities and 5 of them (17%) were performing moderate activity and only 1 among them (3%) was performing heavy activity. Where as in control group, majority of elderly 13 (43%) were performing sedentary activity, 9 of them (31%) were not performing any activities and 7 of them (23%) were performing moderate activity and only 1 among them (3%) was performing heavy activity.

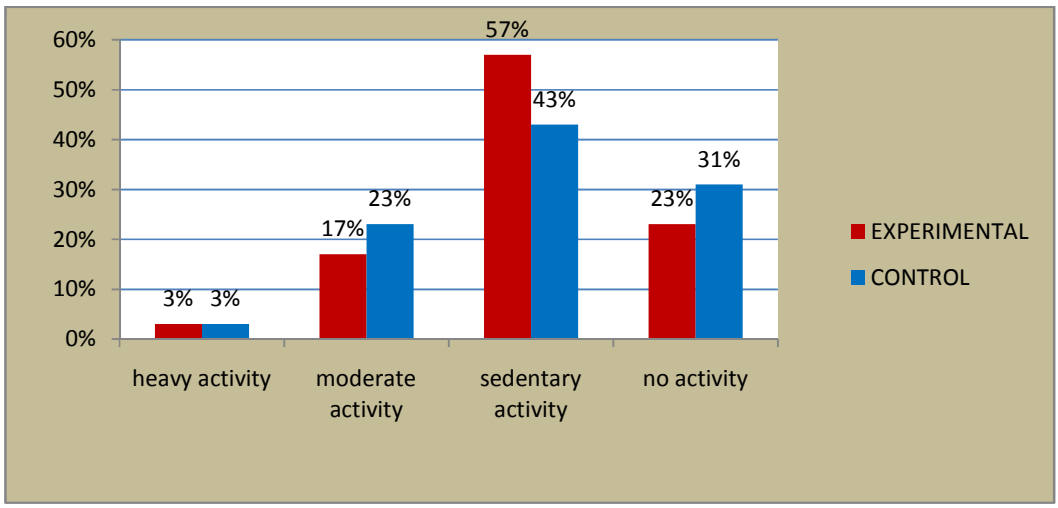


Figure 9 - Distribution of samples in terms of type of activity

SECTION – II

ASSESS PRE-TEST AND POST-TEST SCORE OF QUALITY OF SLEEP AMONG SAMPLES IN CONTROL AND EXPERIMENTAL GROUP

To find out pretest and Post-test assessment of quality of sleep of control and experimental group.

Table – 9: PRE-TEST AND POST-TEST SCORE OF QUALITY OF SLEEP IN CONTROL GROUP (N=30)

LEVEL OF QUALITY OF SLEEP AMONG ELDERLY	CONTROL GROUP			
	PRE-TEST SCORES		POST-TEST SCORES	
	FREQUENCY (N)	PERCENTAGE (%)	FREQUENCY (N)	PERCENTAGE (%)
Poor	20	67	21	70
Moderate	10	33	9	30
Good	0	0	0	0

Table 9 depicts distribution of pre test and Post-test scores of quality of sleep in control group. In pre test majority of clients 20 (67%) had poor quality of sleep and 10 (33%) had moderate quality of sleep. Whereas in Post-test majority of clients 21 (70%) had poor quality of sleep and 9 (30%) had moderate quality of sleep. And none of the elderly had good quality of sleep both in pre test and Post-test.

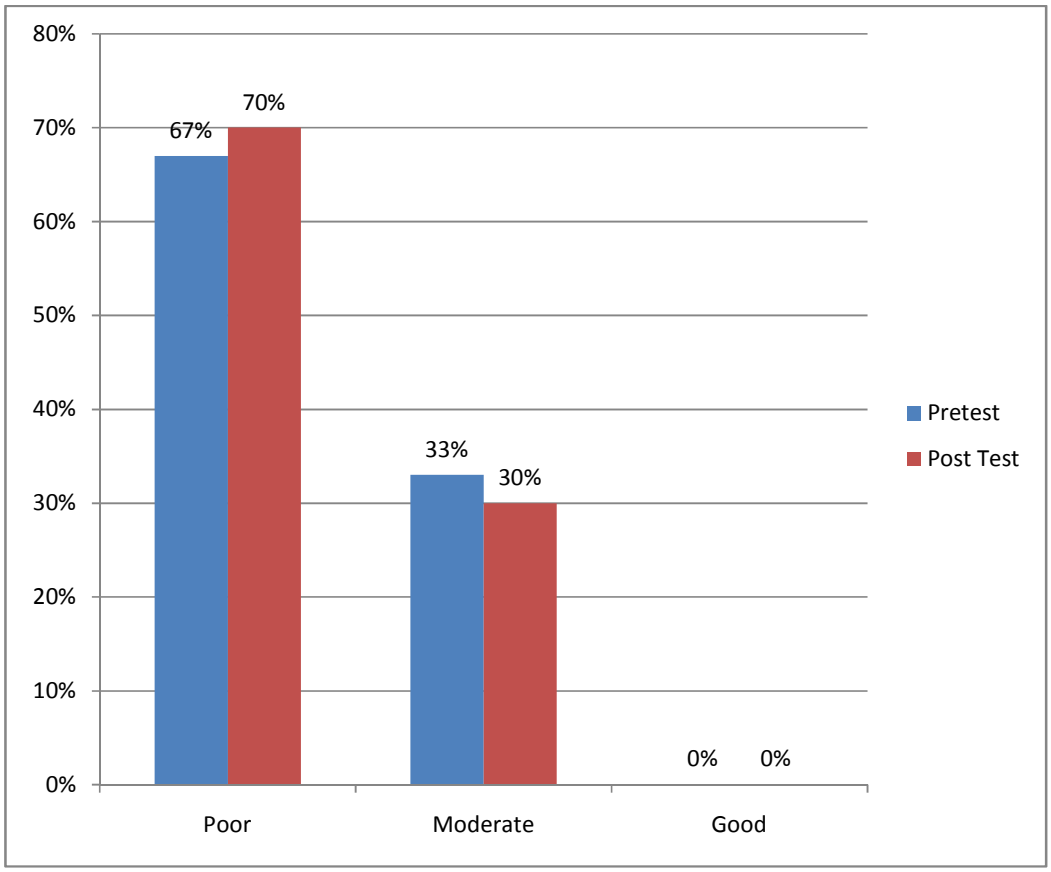


Figure 10 : Diagram shows the pre test and Post-test score of quality of sleep in control group

Table – 10: PRE-TEST AND POST-TEST SCORE OF QUALITY OF SLEEP IN EXPERIMENTAL GROUP

LEVEL OF QUALITY OF SLEEP AMONG ELDERLY	EXPERIMENTAL GROUP			
	PRE-TEST SCORES		POST-TEST SCORES	
	FREQUENCY (N)	PERCENTAGE (%)	FREQUENCY (N)	PERCENTAGE (%)
Poor	21	70	0	0
Moderate	9	30	6	20
Good	0	0	24	80

Table 10 depicts distribution of pre test and Post-test scores of quality of sleep in experimental group. In pre test majority of clients 21 (70%) had poor quality of sleep and 9 (30%) had moderate quality of sleep. Whereas in Post-test majority of clients 24 (80%) had good quality of sleep and 6 (20%) had moderate quality of sleep.

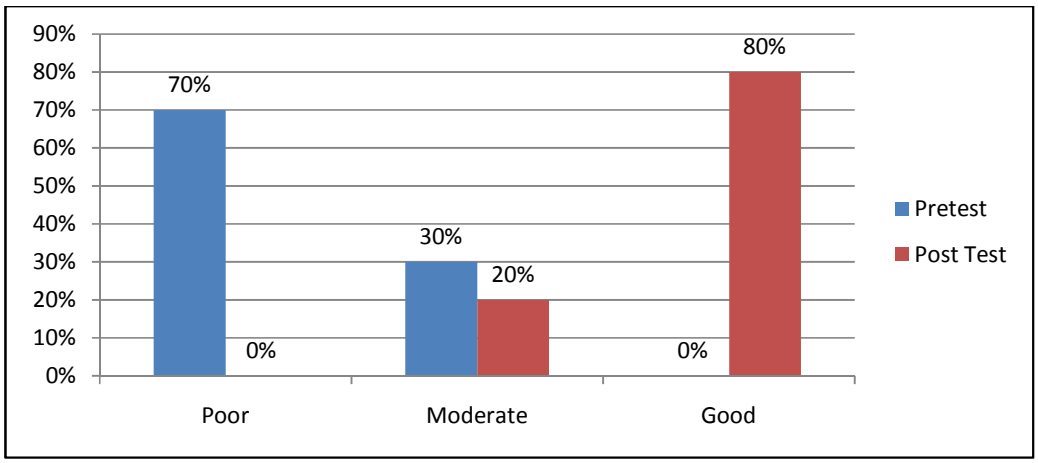


Figure 11: Diagram shows the pre test and Post-test score of quality of sleep in experimental group

SECTION –III

COMPARISON OF MEAN PRE-TEST AND MEAN POST-TEST QUALITY OF SLEEP AMONG SAMPLES IN CONTROL AND EXPERIMENTAL GROUP

The effectiveness of therapeutic back massage was tested by using paired‘t’ test and unpaired ‘t’ test. Paired‘t’ test and unpaired‘t’ test was calculated to analyze the difference in pre test and Post-test scores of quality of sleep in control and experimental group.

Table 11: COMPARISON OF MEAN PRE TEST AND MEAN POST-TEST SCORE OF QUALITY OF SLEEP AMONG SAMPLES IN CONTROL GROUP. (N =30)

S. No	Component	Test	Mean	S.D	‘t’ value
1.	**Control group Quality of Sleep Score**	Pretest	24.06	7.58	0.536
		Posttest	23.36	6.88	

- **Not Significant at 0.05 level**

The hypothesis was stated as follows:

H1: Therapeutic back massage will be effective in improving the quality of sleep among elderly.

Table 11 shows the comparison of pre test and Post-test scores of quality of sleep in control group. The mean pre test score is 24.06 and the mean Post-test score is 23.36.

The obtained 't' test value was 0.536 when compared to table value (1.699) is low. The findings shows that without therapeutic back massage there is no significant difference between pre test and Post-test scores of quality of sleep in control group.

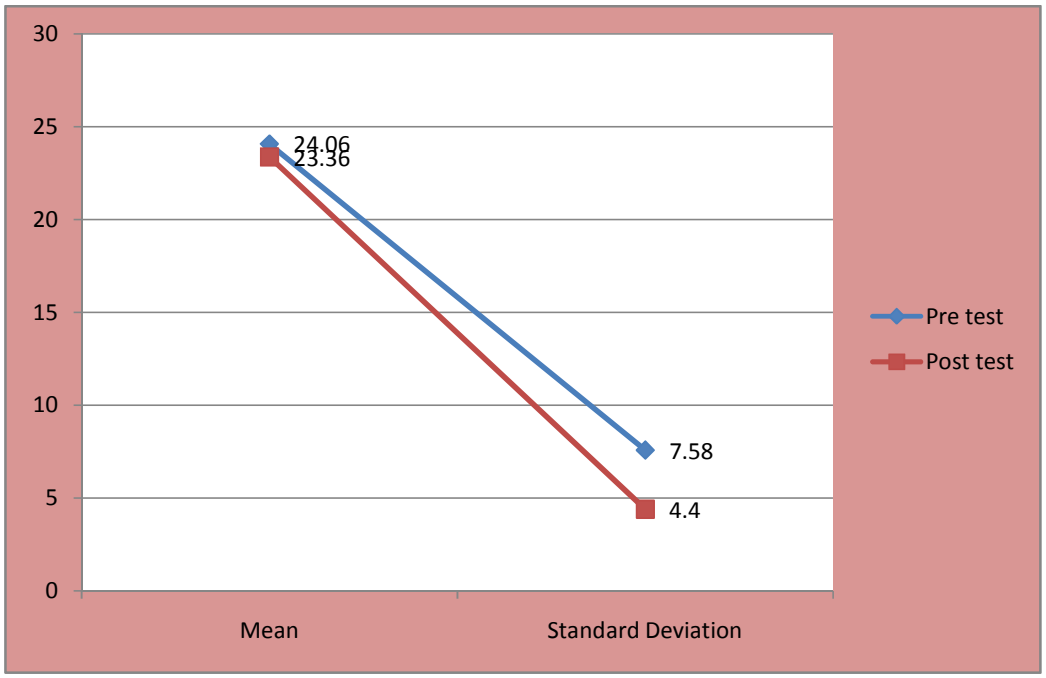


Figure 12: Mean and Standard Deviation of pre test and Post-test quality of sleep score in control group

Table 12: COMPARISON OF MEAN PRE TEST AND MEAN POST-TEST SCORE OF QUALITY OF SLEEP AMONG SAMPLES IN EXPERIMENTAL GROUP. (N =30)

S. No	Group	Test	Mean	S.D	't' value
1.	**Experimental group**	Pre-test	24.93	6.46	**19.26****
	Quality of Sleep Score	Post-test	55.96	9.87	

**** Significant at 0.05 level**

Table 12 shows the comparison of pre test and Post-test scores of quality of sleep in experimental group. The mean post-test score is 55.96 is higher than the mean pre-test score 24.93. The obtained't' test value was 19.26 when compared to table value (1.699) is high which is significant at 0.05 level. This indicates that the difference between the mean 31.03 is a true difference and has not occurred by chance. There is significant difference between pretest and post–test score of quality of sleep in the experimental group. So the researcher accepts the research hypothesis (H1). It seems that therapeutic back massage makes significant difference in the quality of sleep in experimental group.

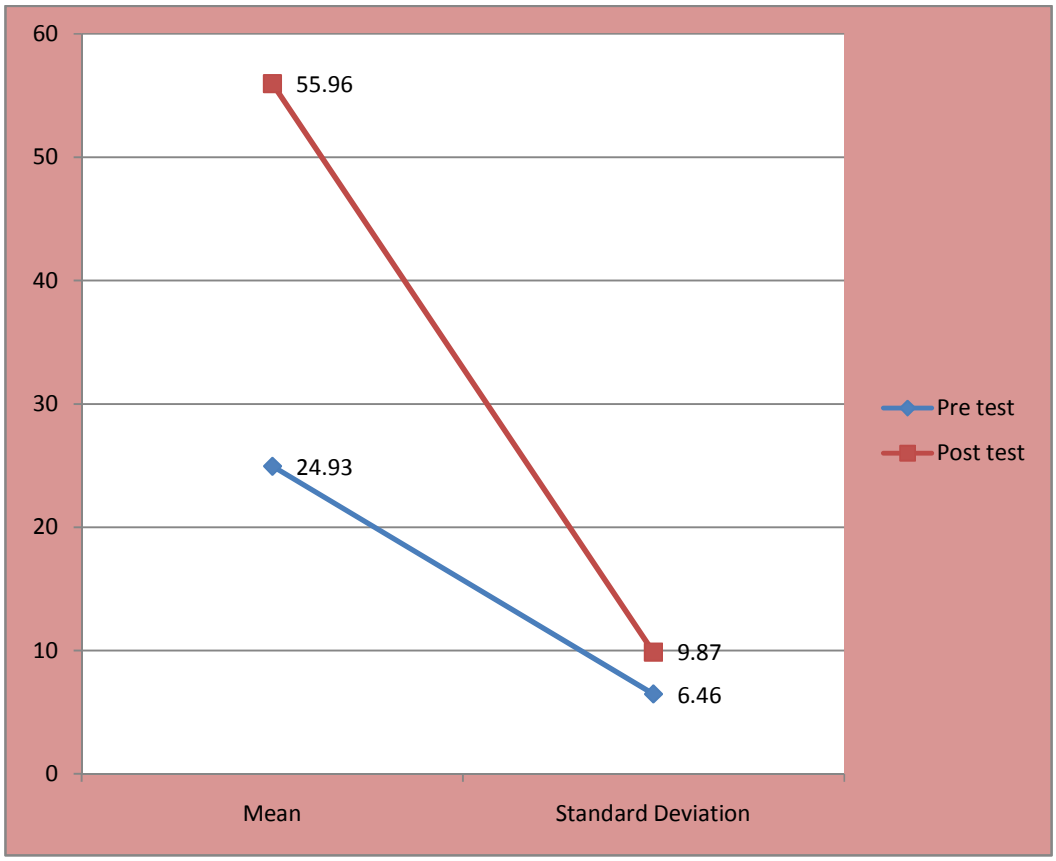


Figure 13: Mean and Standard Deviation of pre test and Post-test quality of sleep score in experimental group

SECTION – IV

COMPARISON OF MEAN POST-TEST SCORE OF QUALITY OF SLEEP IN CONTROL GROUP AND EXPERIMENTAL GROUP

Table 13: COMPARISON OF POST-TEST QUALITY OF SLEEP AMONG SAMPLES IN CONTROL AND EXPERIMENTAL GROUP (N=30)

S. No	Group	Test	N	Mean	S.D	't' value
1.	Control group	Post-test	30	23.36	6.88	**17.30****
	Experimental group		30	55.96	9.87	

**** Significant at 0.05 level**

To find out if there is any difference between mean Post-test quality of sleep score of experimental and control group.

Table 13 shows calculation of unpaired 't' test to analyze the difference between the mean Post-test score of quality of sleep in control and experimental group. The mean Post-test value of control group was 23.36 which is lesser than the mean post value 55.96 of experimental group. The obtained 't' value was 17.30 when compared to the table value (2) is high which is significant at 0.05 level. This indicates the difference between the Post-test means in both the experimental and control group is a true difference. So the researcher accepts the research hypothesis (H2). The finding shows that there is significant increase in the quality of sleep in experimental group than

control group. It indicates the effectiveness of therapeutic back massage in improving the quality of sleep among elderly.

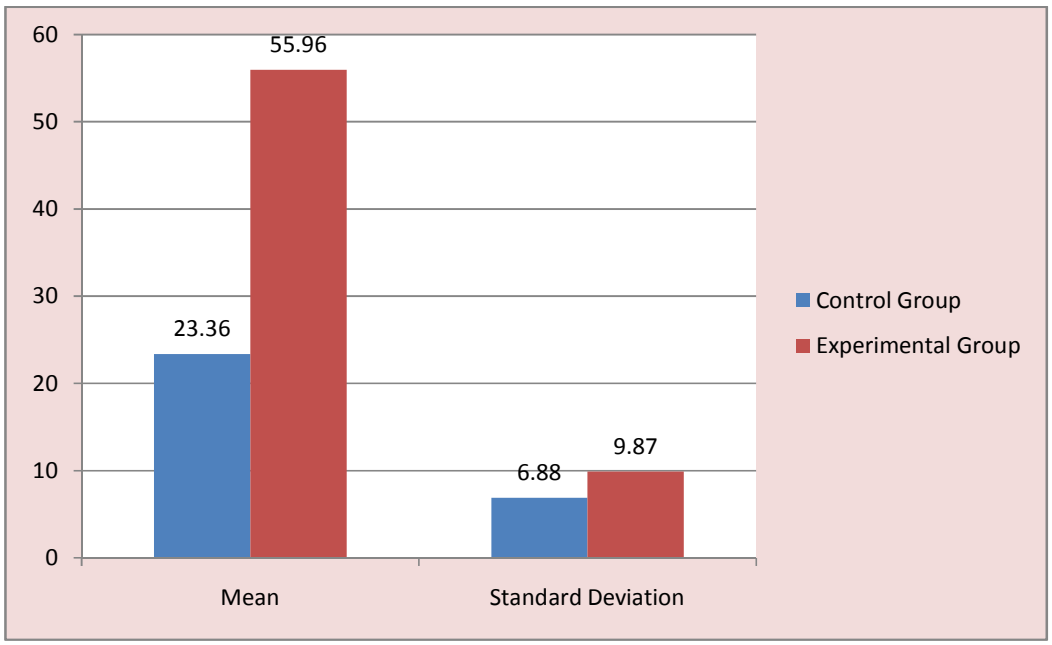


Figure 12: Comparison of mean Post-test score of quality of sleep in control group and experimental group

SECTION V

ASSOCIATION BETWEEN PRE TEST SCORES OF QUALITY OF SLEEP IN EXPERIMENTAL AND CONTROL GROUP WITH SELECTED DEMOGRAPHIC VARIABLES

This section deals with the association between pre test scores of quality of sleep in experimental and control group with selected demographic variables.

Table 14. ASSOCIATION BETWEEN PRE TEST SCORE OF QUALITY OF SLEEP AND SELECTED DEMOGRAPHIC VARIABLES IN EXPERIMENTAL GROUP.

Demographic Variable	F	%	df	Chi square χ^2	Table Value
AGE	**N = 30**	**%**	6	***14.69**	12.59
60 -65	1	3			
66 – 70	8	27			
71 – 75	14	47			
76 and above	7	23			
GENDER	**N = 30**	**%**	2	0.14	5.99
Male	7	23			
Female	23	77			
MARITAL STATUS	**N = 30**	**%**	6	3.31	12.59
Married	3	10			
Unmarried	2	7			
Widow	19	63			
Separated	6	20			

DIETARY PATTERN	**N = 30**	**%**	2	2.73	5.99
Vegetarian	4	13			
Mixed	26	87			
PERSONAL HABITS	**N = 30**	**%**	6	***17.45**	12.59
Alcoholism	0	0			
Tobacco Usage	0	0			
Coffee/ Tea	27	90			
None	3	10			
DAY TIME NAPPING	**N = 30**	**%**	6	***15.4**	12.59
< ½ hr	8	27			
½ hr – 1 hr	19	63			
1 – 2 hrs	3	10			
> 2 hrs	0	0			
TYPE OF ACTIVITY	**N = 30**	**%**	6	***13.16**	12.59
Heavy	1	3			
Moderate	5	17			
Sedentary	17	57			
No	7	23			

*** Significant at 0.05 level**

The research hypotheses was stated as follows;

H2: There will be a significant association between the pre-test quality of sleep among elderly in the old age home with selected demographic variables such as age, sex, marital status, day time naps, use of caffeine, dietary pattern, and type of activity.

From the above table it is evident that there is significant association exist between pretest score of quality of sleep with some of selected demographic variables in experimental group.

In order to find out the association between pretest score and age, chi square test was computed. Regarding age the obtained χ^2 **value** 14.69 at df(6) is higher than the table value 12.59, which is significant at 0.05 level, thus it is evident that there is significant association exist between pretest score of quality of sleep and age.

Regarding gender the obtained χ^2 **value** 0.14 at df(2) is lower than the table value 5.99, which is not significant at 0.05 level, thus it is evident that there is no significant association exist between pre-test score of quality of sleep and gender.

Regarding marital status the obtained χ^2 **value** 3.31 at df(6) is lower than the table value 12.59, which is not significant at 0.05 level, thus it is evident that there is no significant association exist between pre-test score of quality of sleep and marital status.

Regarding dietary pattern the obtained χ^2 **value** 2.73 at df(2) is lower than the table value 5.99, which is not significant at 0.05 level, thus it is evident that there is no significant association exist between pre-test score of quality of sleep and dietary pattern.

Regarding personal habits the obtained χ^2 **value** 17.45 at df (6) is higher than the table value 12.59, which is significant at 0.05 level, thus it is evident that there is

significant association exist between pretest score of quality of sleep and personal habits.

Regarding day time napping the obtained χ^2 **value** 15.4, at df(6) is higher than the table value 12.59, which is significant at 0.05 level, thus it is evident that there is significant association exist between pretest score of quality of sleep and day time napping.

And regard to type of activity the obtained χ^2 **value** 13.16, at df(6) is higher than the table value 12.59, which is significant at 0.05 level, thus it is evident that there is significant association exist between pretest score of quality of sleep and type of activity.

This shows that quality of sleep was dependent on some of the selected demographic variables in experimental group. Thus the researcher accepts the research hypothesis (H2)

Table 15. ASSOCIATION BETWEEN PRE TEST SCORE OF QUALITY OF SLEEP AND SELECTED DEMOGRAPHIC VARIABLES IN CONTROL GROUP.

Demographic variables	F	Percentage	df	Chi square χ^2	Table Value
AGE	**N = 30**	**%**	6	***12.89**	12.59
60 -65	2	7			
66 – 70	14	47			
71 – 75	8	27			
76 and above	6	19			
GENDER	**N = 30**	**%**	2	4.68	5.99
Male	9	30			
Female	21	70			
MARITAL STATUS	**N = 30**	**%**	6	1.82	12.59
Married	7	23			
Unmarried	3	10			
Widow	14	47			
Separated	6	20			
DIETARY PATTERN	**N = 30**	**%**	2	1.92	5.99
Vegetarian	8	27			
Mixed	22	73			
PERSONAL HABITS	**N = 30**	**%**	6	***13.71**	12.59
Alcoholism	0	0			
Tobacco Usage	0	0			

Coffee/ Tea	21	70			
None	9	30			
DAY TIME NAPPING	**N = 30**	**%**	6	***13.96**	12.59
< ½ hr	2	7			
½ hr – 1 hr	12	40			
1 – 2 hrs	10	33			
> 2 hrs	6	20			
TYPE OF ACTIVITY	**N = 30**	**%**	6	***15.6**	12.59
Heavy	1	3			
Moderate	7	23			
Sedentary	13	43			
No	9	31			

*** Significant at 0.05 level**

From the above table it is evident that there is significant association exist between pretest score of quality of sleep with some of selected demographic variables in control group.

In order to find out the association between pretest score and age, chi square test was computed.

According to age the obtained χ^2 **value** 12.89, is higher than the table value 12.59, which is significant at 0.05 level, thus it is evident that there is significant association exist between pretest score of quality of sleep and age.

Regarding gender the obtained χ^2 **value** 4.68 at df(2) is lower than the table value 5.99, which is not significant at 0.05 level, thus it is evident that there is no significant association exist between pre-test score of quality of sleep and gender.

Regarding marital status the obtained χ^2 **value** 1.82 at df(6) is lower than the table value 12.59, which is not significant at 0.05 level, thus it is evident that there is no significant association exist between pre-test score of quality of sleep and marital status.

Regarding dietary pattern the obtained χ^2 **value** 1.92 at df(2) is lower than the table value 5.99, which is not significant at 0.05 level, thus it is evident that there is no significant association exist between pre-test score of quality of sleep and dietary pattern.

Regarding personal habits the obtained χ^2 **value**13.71, is higher than the table value 12.59, which is significant at 0.05 level, thus it is evident that there is significant association exist between pretest score of quality of sleep and personal habits.

Regarding day time napping the obtained χ^2**value** 13.96, is higher than the table value 12.59, which is significant at 0.05 level, thus it is evident that there is significant association exist between pretest score of quality of sleep and day time napping.

And regard to type of activity χ^2 **value** 15.6, is higher than the table value 12.59, which is significant at 0.05 level, thus it is evident that there is significant association exist between pretest score of quality of sleep and type of activity.

This shows that the pre test quality of sleep was dependent on some of the selected demographic variables in control group. Thus the researcher accepts the research hypothesis (H2).

CHAPTER V

DISCUSSION

This chapter deals with the discussion which was based on the findings obtained from the statistical analysis and its relation to the objectives of the study, the conceptual frame work and the related literature.

The aim of the study was to assess the effectiveness of therapeutic back massage on quality of sleep among elderly in Lion's club old age home at Erode.

The therapeutic back massage is a non pharmacological approach used by nurses and other para - medical staffs in providing a holistic care for the patients, it provides relaxation and improves sleep quality by relieving pain and spasms. In this study therapeutic back massage was provided for the elderly's in the experimental group. Every weak 8 patients were treated with therapeutic back massage for 15 minutes before their bed time. Before and after the intervention quality of sleep score was assessed and reassessed using MEDICAL OUTCOME STUDY SLEEP SCALE by interview method.

Sample characteristics in control group and experimental group

According to **age,** in experimental group 1 elderly (3%) was in the age group of 60-65 years, 8 of them (27%) were in the age group of 66-70 years, 14 of them (47%) were in the age group of 70-75 years and 7 of them(23%) were in the age group of 75 and above years. Whereas in control group 2 elderly (7%) were in the age group of 60-65 years, 14 of them (47%) were in the age group of 66-70 years, 8 of them

(27%) were in the age group of 71- 75 years and 6 of them (19%) were in the age group of 76 and above years.

With regarding to **gender**, in experimental group 7 elderly (23%) were male and 23 of them (77%) were female where as in the control group 9 elderly (30%) were male and 21 of them (70%) were female.

Regarding **marital status**, in experimental group 3 elderly (10%) were married, 2 of them(7%) were unmarried, 19 of them(63%) were widows and widowers and 6 of them (20%) were separated Where as in control group 7 elderly (23%) were married, 3 of them(10%) were unmarried, 14 of them(47%) were widows and widowers and 6 of them (20%) were separated.

Regarding **dietary pattern,** in experimental group 4 elderly (13%) were vegetarian and 26 of them (87%) were taking mixed diet where as in control group 8 elderly (27%) were vegetarian and 22 of them (73%) were taking mixed diet.

With regarding to **personal habits,** in the experimental group none of the elderly (0%) were consuming alcohol, none of them (o%) were consuming tobacco , 27 of them (90%) were consuming tea and coffee and 3 of them (10%) have no personal habits whereas in control group none of the elderly (0%) were consuming alcohol, none of them (o%) were consuming tobacco, 21 of them (70%) consume tea and coffee and 9 of them (30%) have no personal habits.

Regarding **day time napping**, in experimental group 8 elderly (27%) were having naps less than half an hour during day time, 19 of them (63%) were having naps for half an hour to one hour, 3 of them (10%) were having naps for one to two hours and none of them (0%) were having naps for more than two hours where as in control

group 2 elderly (7%) were having naps less than half an hour during day time, 12 of them (40%) were having naps for half an hour to one hour, 10 of them (33%) were having naps for one to two hours and 6 of them (20%) were having naps for more than two hours.

Regarding **type of activity**, in the experimental group 1 elderly (3%) was performing heavy activity, 5 of them (17%) were performing moderate activity, 17 of them (57%) were performing sedentary activity and 7 of them (23%) were performing no activity where as in control group 1 elderly (3%) was performing heavy activity, 7 of them (23%) were performing moderate activity, 13 of them (43%) were performing sedentary activity and 9 of them (31%) were performing no activity.

OBJECTIVES OF THE STUDY

1. To assess the pre test and post-test score of quality of sleep among elderly in both experimental and control group.
2. To implement and evaluate the effectiveness of therapeutic back massage on quality of sleep among the elderly.
3. To find out the association between pre test quality of sleep among elderly with selected demographic variables such as age, sex, marital status, day time naps, use of caffeine, dietary pattern, and type of activity.

1. The first objective of the study was to assess the pre test and Post-test quality of sleep among elderly both in experimental and control group

This was analysed by using frequency and percentage and the result shows that, therapeutic back massage increases the quality of sleep among elderly. In order to

determine the effectiveness of therapeutic back massage among elderly, the investigator assessed the pretest and post-test quality of sleep among elderly in both the groups.

Table 9 depicts distribution of pre test and Post-test scores of quality of sleep in control group. In pre test majority of clients 20 (67%) had poor quality of sleep and 10 (33%) had moderate quality of sleep. Whereas in Post-test majority of clients 21 (70%) had poor quality of sleep and 9 (30%) had moderate quality of sleep. And none of the elderly had good quality of sleep both in pre test and Post-test.

Table 10 depicts distribution of pre test and Post-test scores of quality of sleep in experimental group. In pre test majority of clients 21 (70%) had poor quality of sleep and 9 (30%) had moderate quality of sleep. Whereas in Post-test majority of clients 24 (80%) had good quality of sleep and 6 (20%) had moderate quality of sleep.

2. The second objective was to implement and evaluate the effectiveness of therapeutic back massage on quality of sleep among elderly in experimental group.

Comparison of mean pre-test and mean post-test score of quality of sleep in control group.

The effectiveness of therapeutic back massage was tested by using paired ‘t’ test and unpaired ‘ t’ test. Table 12 shows the comparison of mean pre test and mean Post-test scores of quality of sleep in control group. The mean pre test score is 24.06 and the mean Post-test score is 23.36. The paired ‘t’ test value was 0.536 when compared to table value (1.699) is low. It seems that without therapeutic back massage there is no

significant difference between pre test and Post-test scores of quality of sleep in control group.

Comparison of mean pre-test and mean post-test score of quality of sleep in experimental group.

Paired 't' test and unpaired 't' test was calculated to analyze the difference in pre and post-test scores of quality of sleep in control and experimental group. Table 13 shows the comparison of mean pre test and mean Post-test scores of quality of sleep in experimental group. The mean pre test score is 24.93 and the mean Post-test score is 55.96. The paired't' test value was 19.26 when compared to table value (1.699) is high and is significant at 0.05 level. It seems that therapeutic back massage makes significant difference between pre test and Post-test scores of quality of sleep in experimental group.

Comparison of mean Post-test scores of quality of sleep in control and experimental group.

Table 14 shows calculation of unpaired 't' test to analyze the difference between the mean Post-test score of quality of sleep in control and experimental group. The mean Post-test value of control group was 23.36 which is lesser than the mean post value 55.96 of experimental group. The unpaired 't' value was 17.30 when compared to the table value (2) is high which is significant at 0.05 level. The finding shows there is significant increase in the quality of sleep in experimental group than control group. It indicates that therapeutic back massage is effective in improving the quality of sleep among elderly.

3. The third objective is to find out the association between pre –test quality of sleep among elderly and selected demographic variables such as age, sex, marital status, day time naps, use of caffeine, dietary pattern, and type of activity.

Chi-square was calculated to find out the association between pre test scores of quality of sleep of the participants in experimental and control group.

In experimental group it is evident that there is significant association exist between quality of sleep with the selected demographic variables, such as age (χ^2= 14.69) where as the table value =12.59, personal habits (χ^2=17.45) where as the table value=12.59, day time napping (χ^2=15.4) where as table value =12.59 and type of activity (χ^2=13.16) where as the table value = 9.48 in pre test scores of quality of sleep. The table values of these variables are less than the calculated value at 0.05 levels, so the researcher accepts the research hypotheses for these variables.

In control group it is evident that there is significant association exist between quality of sleep and selected demographic variables, such as age (χ^2=17.69) were as the table value=12.59, personal habits (χ^2=19.91) were as the table value=12.59, day time napping (χ^2=14.43) were as the table value=12.59 and type of activity (χ^2=14.82) were as the table value=12.59 in pre test scores of quality of sleep. The table values of these variables are less than the calculated value at 0.05 level, so the researcher accepts the research hypotheses for these variables.

There was no significant association between the pre test quality of sleep and selected demographic variables in both experimental and control group such as gender, marital status and dietary pattern at $P<0.05$.

CHAPTER VI

SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

This chapter deals with the summary of the study, its findings and conclusion drawn. It clarifies the limitations of the study and the implications. The recommendations were given on various areas like nursing educations, nursing administration, health care delivery system (nursing practice) and nursing research.

SUMMARY

The present study was undertaken by the researcher with the main purpose to evaluate the effectiveness of therapeutic back massage on quality of sleep among elderly. Therefore this therapeutic back massage can be used in future for all elderly with poor quality of sleep.

The study was Quasi experimental in nature.

OBJECTIVES OF THE STUDY

1. To assess the pre test and post-test score of quality of sleep among elderly in both experimental and control group.
2. To implement and evaluate the effectiveness of therapeutic back massage on quality of sleep among the elderly.
3. To find out the association between pre test quality of sleep among elderly and selected demographic variables such as age, sex, marital status, day time naps, use of caffeine, dietary pattern, and type of activity.

HYPOTHESES:

H1: Therapeutic back massage will be effective in improving the quality of sleep among elderly.

H2: There will be a significant association between the pre test quality of sleep among elderly in the old age home with selected demographic variables such as age, gender, marital status, day time napping, personal habits, dietary pattern, and type of activity.

MAJOR FINDINGS:

- According to **age,** 1 elderly (3%) was in the age group of 60-65 years, 8 of them (27%) were in the age group of 66-70 years, 14 of them (47%) were in the age group of 70-75 years and 7 of them(23%) were in the age group of 75 and above years in experimental group. Whereas 2 elderly (7%) were in the age group of 60-65 years, 14 of them (47%) were in the age group of 66-70 years, 8 of them (27%) were in the age group of 71- 75 years and 6 of them (19%) were in the age group of 76 and above years in control group.

- With regarding to **gender**, 7 elderly (23%) were male and 23 of them (77%) were female in experimental group where as 9 elderly (30%) were male and 21 of them (70%) were female in the control group.

- Regarding **marital status**, 3 elderly (10%) were married, 2 of them(7%) were unmarried, 19 of them(63%) were widows and widowers and 6 of them (20%) were separated in experimental group where as 7 elderly (23%) were

married, 3 of them(10%) were unmarried, 14 of them(47%) were widows and widowers and 6 of them (20%) were separated in control group.

- Regarding **dietary pattern,** 4 elderly (13%) were vegetarian and 26 of them (87%) were taking mixed diet in experimental group where as 8 elderly (27%) were vegetarian and 22 of them (73%) were taking mixed diet in control group. .

- With regarding to **personal habits** none of the elderly (0%) were consuming alcohol, none of them (o%) were consuming tobacco , 27 of them (90%) were consuming tea and coffee and 3 of them (10%) have no personal habits in the experimental group whereas , none of the elderly (0%) were consuming alcohol, none of them (o%) were consuming tobacco , 21 of them (70%) consume tea and coffee and 9 of them (30%) have no personal habits in control group.

- Regarding **day time napping**, 8 elderly (27%) were having naps less than half an hour during day time, 19 of them (63%) were having naps for half an hour to one hour, 3 of them (10%) were having naps for one to two hours and none of them (0%) were having naps for more than two hours in experimental group where as 2 elderly (7%) were having naps less than half an hour during day time, 12 of them (40%) were having naps for half an hour to one hour, 10 of them (33%) were having naps for one to two hours and 6 of them (20%) were having naps for more than two hours in control group.

- Regarding **type of activity**, 1 elderly (3%) was performing heavy activity, 5 of them (17%) were performing moderate activity, 17 of them (57%) were

performing sedentary activity and 7 of them (23%) were performing no activity in the experimental group where as in control group 1 elderly (3%) was performing heavy activity, 7 of them (23%) were performing moderate activity, 13 of them (43%) were performing sedentary activity and 9 of them (31%) were performing no activity.

- In the experimental group the pre test revealed that majority of clients 21 (70%) had poor quality of sleep and 9 (30%) had moderate quality of sleep. Whereas in Post-test majority of clients 24 (80%) had good quality of sleep and 6 (20%) had moderate quality of sleep.

- In the control group the pre test revealed that majority of clients 20 (67%) had poor quality of sleep and 10 (33%) had moderate quality of sleep. Whereas in Post-test majority of clients 21 (70%) had poor quality of sleep and 9 (30%) had moderate quality of sleep. And none of the elderly had good quality of sleep both in pre test and Post-test.

- The comparison of pre test and Post-test scores of quality of sleep in control group. The mean pre test score is 24.06 and the mean Post-test score is 23.36. The paired 't' test value was 0.536 when compared to table value (1.699) is low. It seems that without therapeutic back massage there is no significant difference between pre test and Post-test scores of quality of sleep in control group.

- The comparison of pre test and Post-test scores of quality of sleep in experimental group. The mean pre test score is 24.93 and the mean Post-test score is 55.96. The paired't' test value was 19.26 when compared to table

value (1.699) is high and is significant at 0.05 level. This indicates the difference between the mean is true difference and has not occurred by chance. So the researcher accepts the research hypothesis (H1). It seems that therapeutic back massage makes significant difference between pre test and Post-test scores of quality of sleep in experimental group.

- The calculation of unpaired 't' test to analyze the difference between the mean Post-test score of quality of sleep in control and experimental group. The mean Post-test value of control group was 23.36 which is lesser than the mean post value 55.96 of experimental group. The unpaired't' value was 17.30 when compared to the table value (2) is high which is significant at 0.05 level. This indicates the difference between the Post-test means in both the experimental and control group is a true difference. So the researcher accepts the research hypothesis (H2). The finding shows there is significant increase in the quality of sleep in experimental group than control group. It indicates the effectiveness of therapeutic back massage in improving the quality of sleep among elderly.

- **In experimental group** it is evident that there is significant association exist between quality of sleep with the selected demographic variables, such as age (χ^2= 14.69) were as the table value =12.59, personal habits (χ^2=17.45) were as the table value=12.59, day time napping (χ^2=15.4) were as table value =12.59 and type of activity (χ^2=13.16) were as the table value = 9.48 in pre test scores of quality of sleep. The table values of these variables are less than the calculated value at 0.05 levels, so the researcher accepts the research hypotheses for these variables.

- **In control group** it is evident that there is significant association exist between quality of sleep and selected demographic variables, such as age (χ^2=17.69) were as the table value=12.59, personal habits (χ^2=19.91) were as the table value=12.59, day time napping (χ^2=14.43) were as the table value=12.59 and type of activity (χ^2=14.82) were as the table value=12.59 in pre test scores of quality of sleep. The table values of these variables are less than the calculated value at 0.05 level, so the researcher accepts the research hypotheses for these variables.

- There was no significant association between pre test quality of sleep in experimental and control group with selected demographic variables such as gender, marital status and dietary pattern at P<0.05.

CONCLUSION

The following conclusions were drawn from the study:

1. There was significant improvement in quality of sleep among elderly after receiving the therapeutic back massage.
2. There was significant association exist between the pre test score of quality of sleep in the control group and the selected demographic variables like age, personal habits, day time napping and type of activity. (**p<0.05)**
3. There was significant association exist between the pre test score of quality of sleep in the experimental group and the selected demographic variables like age, personal habits, day time napping and type of activity. (**p<0.05)**

NURSING IMPLICATIONS

In the medical surgical health team, nurses play a vital role in the provision of various therapeutic nursing procedures. The nurse knows that the elderly suffer from poor quality of sleep and it can be associated with various other age related health problems. Geriatric who receive medications for sleep disturbances were suffering with the medications side effects. Hence the therapeutic back massage is a simple non pharmacological approach and easy way of handling the sleep disturbances. It can be included as a part of relaxation therapy; to improve the quality of sleep, therefore this study has important implication in

1. Nursing practice

2. Nursing education

3. Nursing administration

4. Nursing research

1. NURSING PRACTICE:-

Nursing profession today is not merely associated with the care and cure but has many attributes associated to it. Nursing care is no more only a task oriented, fragmented care but is a holistic approach. Holistic nursing practice recognizes the importance of the physical, mental, emotional and spiritual dimensions of care and hence is a specialty practice. Holistic nursing care integrate various non pharmacological approach and complementary therapies into clinical practice to meet the elderly's physiological, psychological and spiritual needs and hence broaden the scope of nursing practice.

A. Hospitalized elderly with poor quality of sleep suffer from fatigue, irritation, depression which has not been revealed during hospitalization. The nurse has to assess the quality of sleep among geriatric clients. Therapeutic back massage need to be implemented as a part of other therapies and to be practiced by the nurse in her day-to-day activities. The nurses need to motivate the care takers of elderly patients to practice therapeutic back massage in their daily life.

B. Community The nurse who focuses on the care of elderly should know about the therapeutic back massage. In the family, the members can be encouraged to practice therapeutic back massage for improving the quality of sleep when caring for their elderly at home. Community and medical surgical nurse can also formulate interventional programs on therapeutic back massage for improving poor quality of sleep from adolescents to geriatrics, which will have a cost beneficial effect.

2. NURSING EDUCATION:-

The concept of health was prevention is better than cure; need to be concentrated among the elderly population.

1. Therapeutic back massage need to be included as the sleep induction method in the nursing curriculum.

2. The nursing students need to be educated regarding the therapeutic back massage.

3. Continuing nursing education can be organized on therapeutic back massage.

3. NURSING ADMINISTRATION

Nursing is an evolving profession to improve the quality of care and practice should be evidence based. The present study showed that there is effectiveness of therapeutic back massage on quality of sleep.

1. The administrator can communicate these findings to the nurses and they can incorporate this in daily patient care.

2. The nurse administrator can arrange in-service education program on therapeutic back massage to update their knowledge.

3. The nurse administrator should prepare a teaching module for health education and distribute booklets for patients with sleep disturbances.

4. The nurse administrator should find factors associated with complications and try to solve them.

4. NURSING RESEARCH

Practice emerges from research. Evidence based practice improves the quality of nursing care. This study focuses on improving the quality of nursing care among elderly on improving the quality of sleep. Research adds value to the comprehensive and holistic care. The nurse involved in patient care can educate the patients and enrich the evidence based care which will enhance the nursing research.

1. Further research must be conducted to identify several more effective methods for improving quality of sleep among elderly.

2. This study also brings out the facts that more studies need to be done in different settings of the hospital.

RECOMMENDATIONS FOR FUTURE RESEARCH

1. Replication of the study could be done with a larger sample to validate and generalize the findings.

2. The study can be done by maximizing the time period of therapeutic back massage.

3. The study can be conducted to determine the effectiveness of therapeutic back massage on pain.

4. The study can be conducted among different groups in hospital and community settings.

5. Comparative study can be done to assess the effectiveness of therapeutic back massage among male and female in general wards.

6. The study can be conducted using the other research design.

7. Therapeutic back massage can be applied on the institutionalized elderly and hospitalized elderly to improve quality of sleep with various health problems and various other sleep disorders.

8. The study can be conducted using various age groups like menopausal womens, students, call centre workers etc., who have poor quality of sleep.

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ANNEXURE – A

LETTER REQUESTING PERMISSION FOR CONDUCTING THE FINAL STUDY

NANDHA COLLEGE OF NURSING

(Approved by INC, New Delhi and TNNMC, Chennai
Affiliated to The Tamilnadu Dr. M.G.R. Medical University, Chennai)

Koorapalayam "Pirivu",
Pitchandampalayam Post,
ERODE - 638 052.
TAMILNADU.

Tel : 04294 - 224611, 221405
Fax : 04294 - 224622
Web : www.nandhainstitutions.org
E-mail : nandha_nursing@yahoo.co.in

Prof. R.VASANTHI, M.Sc.(Nur).,
Principal

Date 23.06.2014

To

The Secretary,
Lion's Old age home,
Thottani Chatram,
Pitchandampalayam Post,
Erode – 638 052.

Dear Sir,

Sub : Nandha College of Nursing, Erode – M.Sc. (Nursing) Degree Course – Conducting Research Study – Permission requested – Reg.

* * *

Greetings.

We, Nandha College of Nursing, Erode, are offering M.Sc.(Nursing), B.Sc.(Nursing) Degree Course and Diploma in General Nursing and Midwifery course.

We would like to bring to your kind perusal that we are planned to send our Second year M.Sc.(Nursing) student namely **Ms.R.SATHIYA PRIYA** to conduct a research study in your esteemed home for the month of November 2014 as a part of their curriculum.

We assure that she will not disturb the routine function of the hospital.

Hence, we request you to kindly accord permission to our student for the above said purpose.

This is for your kind perusal and favourable action.

Thanking you,

Yours faithfully,

23/06/14

PRINCIPAL
NANDHA COLLEGE OF NURSING
ERODE.

ANNEXURE – B

LETTER GRANTING PERMISSION FOR CONDUCTING THE FINAL STUDY

Lions Club of Erode Mid Town Charitable Trust

Chairman
Lion **P.C. Duraisamy** MJF
Ph. 2533601 - 606

Secretary
Lions **S. Lakshmanan** MJF
Ph. 2257935 Mob.98427 57935

Treasurer
Lion **R. Thangavelu** MJF
Ph. 2257012 Mob. 94430 85133

01.09.2014

To

The Principal,
Nandha College of Nursing

Dear Sir,

Sub : Permission to Student

Ref : Your letter dated.23.06.2014

We hereby give permission to your student R.Sathiyapriya to come to the Home for the Elderly during the month of November and collect data for research purposes.

Yours Truly,

S. Lakshmanan

Secretary

Regd.Office: 297 E.V.N Road Erode - 638009.

Our Permanent Project **HOME FOR THE ELDERLY**
S.F No.17/8, ThottaniChatram, PichandamPalayam (Po), Perundurai(Via), Erode - 638052, Ph. 04294 222528

ANNEXURE – C

LETTER SEEKING EXPERT OPINION FOR CONTENT VALIDITY OF TOOLS

LETTER SEEKING EXPERT'S OPINION FOR CONTENT VALIDITY OF TOOLS

From:
R. Sathiyapriya
M.Sc., Nursing 2nd year,
Nandha college of Nursing,
Erode.

To
MRS. GEETHA,
PRINCIPAL,
VIVEKANANDHA COLLEGE OF NURSING,
TIRUCHENGODU, NAMAKKAL.

Through:
Professor R. Vasanthi,
The Principal,
Nandha College of nursing,
Erode.

SUB : Request expert's opinion on content validity of tool.

Respected Sir/Madam,

I am a final year Master of nursing student in Nandha College of Nursing. I have selected the under mentioned topic for research project to be submitted to the TAMILNADU DR.M.G.R. University Chennai, in partial fulfillment of university requirements for the award of Master of Nursing Degree.

Topic : "A study to evaluate the effectiveness of therapeutic back massage on the quality of sleep among elderly in selected old age homes at Erode".

I request you to kindly go through these tool i.e., interview schedule for collecting Demographic data and standardized questionnaire to assess the effectiveness of therapeutic back massage on the quality of sleep among elderly in selected old age homes at Erode". and give your valuable opinion and comments for any modification and improvement in the tool.

Thanking you,

Date:
Place:

Yours sincerely,
R.Sathiyapriya.

Enclosed:

- Problem statement
- Tool
- Certificate of validation
- Tool validity check list.

17/7/14
Signature of Principal mam.

PRINCIPAL
NANDHA COLLEGE OF NURSING
ERODE.

CONTENT VALIDITY CERTIFICATE

I hereby certify that I have validated the tool of R. Sathiyapriya, M.Sc. [Nursing] II year student of Nandha College of Nursing, Erode and can proceed with this tool, and conduct the main study for dissertation entitled, **"A STUDY TO EVALUATE THE EFFECTIVENESS OF THERAPEUTIC BACK MASSAGE ON THE QUALITY OF SLEEP AMONG ELDERLY IN SELECTED OLD AGE HOMES AT ERODE".**

Place: Erode

Date: 9/8/14

Signature of the Expert

Dr. K. C. RAJARAJAN, M.B.B.S., M.D., D.C.H.
Reg. MEDICAL PRACTIONER
Reg. No. 23335
57, E.V.R. ROAD ERODE-9

Name:

Designation:

CONTENT VALIDITY CERTIFICATE

I here by certify that I have validated the tool of R. Sathiya Priya , M.Sc.,[Nursing] II year student of Nandha college of Nursing, Erode and can proceed with this tool, and conduct the main study for dissertation entitled, **"A study to evaluate the effectiveness of therapeutic back massage on the quality of sleep among elderly in selected old age homes at Erode".**

Place: Coimbatore-14.

Date: 1/8/14.

K. Balasubramani
Signature of the Expert

KMCH COLLEGE OF NURSING COIMBATORE-14

Name: K. Balasubramanian

Designation: Professor – Medical. Surgical Nursing

CONTENT VALIDITY CERTIFICATE

I here by certify that I have validated the tool of R. Sathiya Priya , M.Sc.,[Nursing] II year student of Nandha college of Nursing, Erode and can proceed with this tool. and conduct the main study for dissertation entitled, **"A study to evaluate the effectiveness of therapeutic back massage on the quality of sleep among elderly in selected old age homes at Erode".**

Place: Elayampalayam

Date: 2-8-14

Signature of the Expert

PRINCIPAL
VIVEKANANDHA COLLEGE OF NURSING
ELAYAMPALAYAM-637 205,
Tiruchengode Tk, Namakkal Dt
TAMIL NADU.

Name: M. Geetha

Designation: principal
Vivekanandha College of Nursing

CONTENT VALIDITY CERTIFICATE

I here by certify that I have validated the tool of R.Sathiya priya , M.Sc.,[Nursing] II year student of Nandha college of Nursing, Erode and can proceed with this tool, and conduct the main study for dissertation entitled,**"A study to evaluate the effectiveness of therapeutic back massage on the quality of sleep among elderly in selected old age homes at Erode".**

Dhanvanthi college of Nursing.

Place: Erode.

Date: 27/7/2014.

C. Grazy

Signature of the Expert

Mrs.C.GRAZY.M.Sc.,(N)
Medical Surgical Nursing
RN: 70475 RM:75756

Name: MRS. GRAZY.C.

Designation: ASSISTANT PROFESSOR

CONTENT VALIDITY CERTIFICATE

I here by certify that I have validated the tool of R.Sathiyapriya , M.Sc.,[Nursing] II year student of Nandha college of Nursing, Erode and can proceed with this tool, and conduct the main study for dissertation entitled, **"A study to evaluate the effectiveness of therapeutic back massage on the quality of sleep among elderly in selected old age homes at Erode".**

Place: Thindal, Erode

Signature of the Expert

Date: 5/8/14

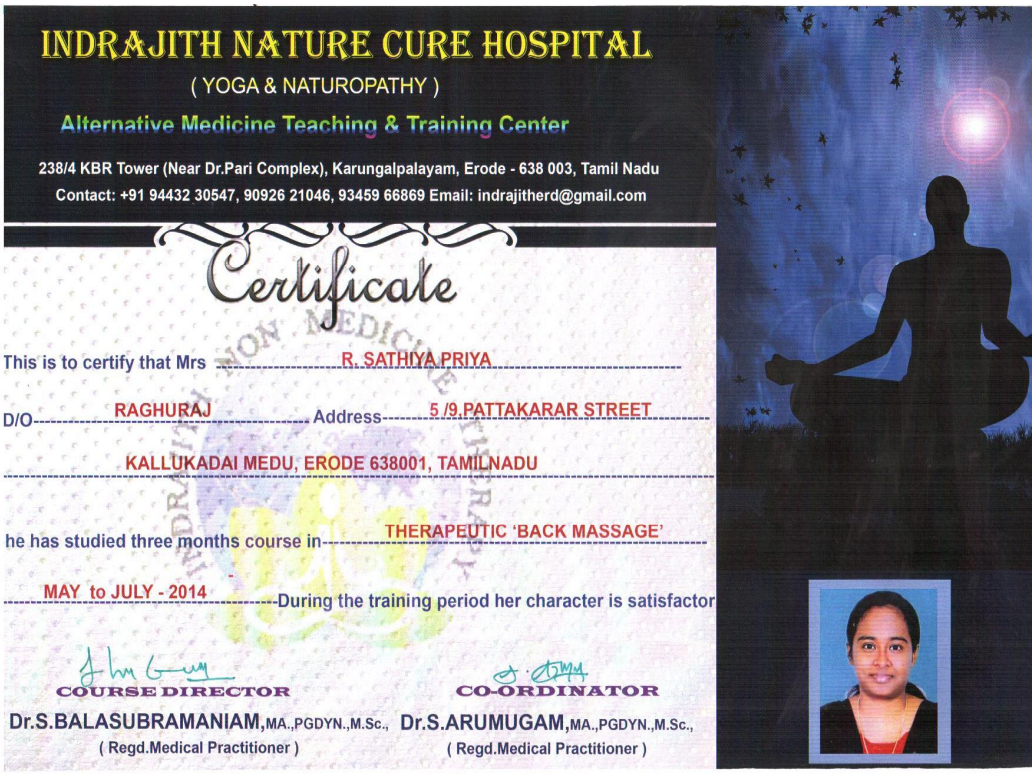
Name: M. SUDHA DEVI

Designation: Assistant Professor.

Vetrivelar College of Nursing
Maruthi Nagar
Thindal
Erode - 638 012

ANNEXURE – D

THERAPEUTIC BACK MASSAGE TRAINING CERTIFICATE



INDRAJITH NATURE CURE HOSPITAL

(YOGA & NATUROPATHY)

Alternative Medicine Teaching & Training Center

238/4 KBR Tower (Near Dr.Pari Complex), Karungalpalayam, Erode - 638 003, Tamil Nadu

Contact: +91 94432 30547, 90926 21046, 93459 66869 Email: indrajitherd@gmail.com

Certificate

This is to certify that Mrs R. SATHIYA PRIYA

D/O RAGHURAJ Address 5 /9 PATTAKARAR STREET

KALLUKADAI MEDU, ERODE 638001, TAMILNADU

he has studied three months course in THERAPEUTIC 'BACK MASSAGE'

MAY to JULY - 2014 During the training period her character is satisfactor

COURSE DIRECTOR

Dr.S.BALASUBRAMANIAM, MA.,PGDYN.,M.Sc.,

(Regd.Medical Practitioner)

CO-ORDINATOR

Dr.S.ARUMUGAM, MA.,PGDYN.,M.Sc.,

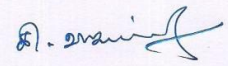
(Regd.Medical Practitioner)

ANNEXURE – E

EDITOR'S CERTIFICATES

CERTIFICATE BY THE EDITOR

This is to certify that the dissertation entitled **"A STUDY TO EVALUATE THE EFFECTIVENESS OF THERAPEUTIC BACK MASSAGE ON THE QUALITY OF SLEEP AMONG ELDERLY IN A SELECTED OLD AGE HOME AT ERODE."** is a bonafide research work by Mrs. R. SATHIYA PRIYA, II year M.Sc. (Nursing) student of Nandha College of Nursing, 29/4, Koorapalayam Pirivu, Pichandampalayam Post, Erode district. Edited the tool in tamil on behalf of the partial fulfillment of the prerequisite for the degree of Master of Science in Nursing (Medical and Surgical Nursing).

Signature of the Editor : 

Name : K. VIJAYALAKSHMI., M.A., B.Ed.,

Designation : Teacher

Date : 09 - 09 - 2014

Seventh - Day Adventist
Matriculation High School
PATTAKKARAR THOTTAM
ERODE - 638 001.

CERTIFICATE BY THE EDITOR

This is to certify that the dissertation entitled **"A STUDY TO EVALUATE THE EFFECTIVENESS OF THERAPEUTIC BACK MASSAGE ON THE QUALITY OF SLEEP AMONG ELDERLY IN A SELECTED OLD AGE HOME AT ERODE."** is a bonafide research work by Mrs. R. SATHIYA PRIYA, II year M.Sc. (Nursing) student of Nandha College of Nursing, 29/4, Koorapalayam Pirivu, Pichandampalayam Post, Erode district. Edited this manuscript on behalf of the partial fulfillment of the prerequisite for the degree of Master of Science in Nursing (Medical and Surgical Nursing).

Signature of the Editor : E.V.R.Thenarasi

Name : E.V.R. THENARASI. M.A. B.Ed.

Designation : Teacher.

Date : 11. 02. 2015.

Seventh - Day Adventist
Matriculation High School
PATTAKKARAR THOTTAM
ERODE - 638 001.

ANNEXURE – F

STRUCTURED INTERVIEW SCHEDULE (ENGLISH VERSION)

PART – A (Demography Questionnaire)

Sample Code No: _____

1. **Age**

   a) 60 – 65 years [ ]

   b) 66 – 70 years [ ]

   c) 71 – 75 years [ ]

   d) 76 and above [ ]

2. **Gender**

   a) Male [ ]

   b) Female [ ]

3. **Marital status**

   a) Married [ ]

   b) Un married [ ]

   c) Widow/widower [ ]

   d) separated [ ]

4. **Dietary pattern**

a) Vegetarian [ ]

b) Mixed [ ]

5. **Personal habits**

a) consuming alcohol [ ]

b) use of tobacco (smoking or chewing) **[ ]**

c) coffee or tea consumption [ ]

d) none of the above [ ]

6. **Day time napping**

a) less than half an hour [ ]

b) half an hour to one hour [ ]

c) one hour to two hours [ ]

d) more than two hours [ ]

7**. Type of activity**

a) heavy activity [ ]

b) moderate activity [ ]

c) sedentary activity [ ]

d) no activity [ ]

PART – B

Sleep Scale from the Medical Outcomes Study

1. How long did it usually take for you to fall asleep during the past 4 weeks?

(Circle One)

0-15 minutes……..…1

16-30 minutes……..2

31-45 minutes……..3

46-60 minutes……..4

More than 60 minutes …….5

---

2. On the average, how many hours did you sleep each night during the past 4 weeks?

Write in number
of hours per night: ☐☐

How often during the <u>past 4 weeks</u> did you…

	(Circle One Number On Each Line)					
	All of the Time ▼	Most of the Time ▼	A Good Bit of the Time ▼	Some of the Time ▼	A Little of the Time ▼	None of the Time ▼
3. feel that your sleep was not quiet (moving restlessly, feeling tense, speaking, etc., while sleeping)?	1	2	3	4	5	6
4. get enough sleep to feel rested upon waking in the morning?	1	2	3	4	5	6
5. awaken short of breath or with a headache?	1	2	3	4	5	6
6. feel drowsy or sleepy during the day?	1	2	3	4	5	6
7. have trouble falling asleep?	1	2	3	4	5	6
8. awaken during your sleep time and have trouble falling asleep again?	1	2	3	4	5	6
9. have trouble staying awake during the day?	1	2	3	4	5	6
10. snore during your sleep?	1	2	3	4	5	6
11. take naps (5 minutes or longer) during the day?	1	2	3	4	5	6
12. get the amount of sleep you needed?	1	2	3	4	5	6

ANNEXURE – G

STRUCTURED INTERVIEW SCHEDULE AND QUESTIONNAIRES

(TAMIL VERSION)

பகுதி - I

ஒருங்கமைக்கப்பட்ட நேர்காணல் திட்டம்

வழிமுறைகள் :- தகவல் சேகரிப்பவர் சிகிச்சை பெறப்பட்ட முதியோர் கூறும் விடைகளை குறித்துக் கொள்ளவேண்டும்.

மாதிரி எண்:-

பொதுவான விபரங்கள்:-

1. வயது
   - (i) 60 முதல் 65 வயது வரை.
   - (ii) 66 முதல் 70 வயது வரை.
   - (iii) 71 முதல் 75 வயது வரை.
   - (iv) 76 வயதுக்கு மேல்.
2. பாலினம்
   - (i) ஆண்.
   - (ii) பெண்.
3. திருமண விபரம்
   - (i) திருமணமானவர்.
   - (ii) திருமணமாகதவர்
   - (iii) கணவன் (அல்லது) மனைவியை இழந்தவர்.
   - (iv) கணவன் (அல்லது) மனைவியை பிரிந்தவர்.
4. உணவுப் பழக்கம்.
   - (i) சைவ உணவு உண்பவர்.

(ii) சைவம் மற்றும் அசைவ உணவு உண்பவர்.

5. தங்களது பழக்க வழக்கம்.

(i) மதுபானம் குடிப்பது.

(ii) புகை இலை புகைப்பது (அல்லது) சுவைப்பது.

(iii) காபி (அல்லது) தேனீர் குடிப்பது.

(iv) மேற்கண்ட பழக்கங்கள் இல்லை.

6. காலை நேர குட்டித் தூக்கம்.

(i) அரைமணி நேரத்திற்கும் குறைவாக.

(ii) அரைமணி நேரத்திலிருந்து ஒரு மணி நேரம் வரை.

(iii) ஒரு மணி நேரத்திலிருந்து இரண்டு மணி நேரம் வரை.

(iv) இரண்டு மணி நேரத்திற்கு மேல்.

7. செயல்பாட்டின் வகைகள்.

(i) கடினமான உடல் உழைப்புள்ள.

(ii) மிதமான உடல் உழைப்புள்ள.

(iii) சரீர உழைப்பில்லாத செயல்பாடு.

(iv) செயல்பாடின்மை.

பகுதி - II

தூக்கத்தின் தன்மையை அளவிடும் வினாக்கள்

குறிப்பு : தங்களின் கடந்த நான்கு வாரங்களின் தூக்கத்தின் தன்மையை அறிய சில வினாக்கள் கீழே கொடுக்கப்பட்டுள்ளன. அவற்றை கவனமாகப் படித்து சரியான இடத்தில் (√) செய்யவும்.

1. கடந்த நான்கு வாரங்களாக படுக்கைக்குச் சென்ற பிறகு தூக்கம் வருவதற்கு எவ்வளவு நேரம் ஆகிறது.

0-15 நிமிடங்கள் ..... ☐

16-30 நிமிடங்கள் ..... ☐

31-45 நிமிடங்கள் ..... ☐

46-60 நிமிடங்கள் ..... ☐

60 நிமிடங்களுக்கு மேல் ..... ☐

2. நீங்கள் கடந்த நான்கு வாரங்களாக ஒவ்வொரு இரவிலும் தோராயமாக எவ்வளவு நேரம் தூங்கினீர்கள்?

எத்தனை மணி நேரம் என்பதை எண்ணால் குறிப்பிடவும் ☐ ☐

வ. எ ண்		எப்பொழுதும்	அநேகமாக எல்லா சமயங்களிலும்	குறைந்த சமயங்களில் மட்டும்	மிக குறைந்த சமயங்களில் மட்டும்	ஒரு சில நேரங்களில் மட்டும்	ஒரு போதும் இல்லை
3	உங்களுக்கு தூக்கம் அமைதியில்லாததாக உணர்ந்ததுண்டா? (உதாரணமாக - தூக்கத்தில் புரண்டுகொண்டு இருப்பது, மன அழுத்தமாக இருப்பது அல்லது உளறுவது).						
4	காலையில் விழிக்கும் பொழுது நன்றாக தூங்கியதாக உணர்ந்ததுண்டா?						
5	மூச்சுத்திணறலினாலோ அல்லது தலைவலியினாலோ, தூக்கத்திலிருந்து விழித்ததுண்டா?						
6	பகல் நேரங்களில் தூக்கம் வருவதாக அல்லது சோர்வாக இருப்பதாக உணர்ந்ததுண்டா?						
7	தூங்க ஆரம்பிப்பதற்கு சிரமம் இருந்ததுண்டா?						
8	தூக்கத்திலிருந்து விழித்தவுடன் மீண்டும் தூங்குவது சிரமமாக இருந்ததுண்டா?						
9	பகல் நேரங்களில் விழித்திருப்பது சிரமமாக உள்ளதாக உணர்ந்ததுண்டா?						
10	தூங்கும் பொழுது குறட்டை விட்டதுண்டா?						
11	பகல் நேரங்களில் (5 நிமிடங்கள் அல்லது அதற்கு மேல்) தூங்குவதுண்டா?						
12	போதுமான அளவு தூங்கியதாக உணர்ந்ததுண்டா?						

ANNEXURE – H

PROTOCOL FOR THERAPEUTIC BACK MASSAGE

INTRODUCTION:

The practice of using touch as a healing method derives from customs and techniques rooted in ancient history. Civilizations in the East and West found that natural healing and massage could heal injuries, relieve pain, and prevent and cure illnesses. What's more, it helped reduce stress and produce deep relaxation.

Massage therapy began as a sacred system of natural healing. However, cultural shifts rendered it a disreputable form of indulgence for extensive periods of history. Enduring these turns, massage has experienced resurgence in modern times. Today, massage therapy stands as a highly respected holistic healing method practiced across the world. Here's how massage has evolved into the relaxing and therapeutic practice it is today

DEFINITION:

Therapeutic back massage is the manipulation of superficial layers of muscle and connective tissue to enhance their function and promote relaxation and well-being.

EQUIPMENTS REQUIRED:

1. Warm, Quiet, Relaxed Environment.

2. Firm comfortable surface such as a bed, massage table or floor mat

3. Massage oil for a fine starter

4. Towels to lie on, and also to cover the body

5.Cushions or pillows for support

MASSAGE TIPS:

1. Massage oil decreases the friction created on the skin and prevents the pulling of hairs. Don't use too much; the less oil, the greater the friction and the deeper the pressure.

2. Use slower movements for a soothing or claming response

3. When applying pressure with finger or thumb, provide support with the other fingers and thumbs, Otherwise you will wear your thumbs out.

4. Always keep moving your hands. don't stop and start.

5. Everyone has a different tolerance to pressure. Be sure to ask for feed back when introducing deeper strokes as necessary.

6. Periodically remind the person to take a slow, deep breath into their stomach. It will help them relax.

7. Make sure the room is not too hot or too cold for the person receiving a massage might not enjoy it.

MASSAGE BENEFITS :

- Relaxation, releasing of tight muscles.
- Emotional comfort and stress management.
- Increased body awareness.
- Improved circulation, and improved lymphatic drainage for release of toxins.

- Improved Quality of sleep.
- Alleviate low-back pain and improve range of motion.
- Assist with shorter, easier labour for expectant mothers and shorten maternity hospital stays.
- Ease medication dependence.
- Enhance immunity by stimulating lymph flow—the body's natural defence system.
- Exercise and stretch weak, tight, or atrophied muscles.
- Help athletes of any level prepare for, and recover from, strenuous workouts.
- Improve the condition of the body's largest organ—the skin.
- Increase joint flexibility.
- Lessen depression and anxiety.
- Promote tissue regeneration, reducing scar tissue and stretch marks.
- Pump oxygen and nutrients into tissues and vital organs, improving circulation.
- Reduce post surgery adhesions and swelling.
- Reduce spasms and cramping.
- Relax and soften injured, tired, and overused muscles.
- Release endorphins—amino acids that work as the body's natural painkiller.

CONTRAINDICATIONS:

- Deep vein thrombosis.
- Spinal injuries or damage such as herniated disc.
- A bleeding disorder or taking blood thinning drugs such as warfarin
- Damaged blood vessels
- Weakened bone from osteoporosis, fracture and cancers.

- Fragile skin from diabetes or a healing scar.
- Open wounds or healing wound.
- Damaged nerves.
- Inflammation and other skin infections

TYPES OF THERAPEUTIC BACK MASSAGE:

- **Effleurage -** The word *effleurage* is from the French word *effleurer*, meaning "to glide" or "touch lightly". Effleurage is the most frequently used massage technique and is one of the most versatile techniques. Long and sweeping strokes are typically used to cover more than just one area of the body. Effleurage is used to spread lubricant and warm up the tissues to prepare them for deeper work. In addition, this technique is used at the beginning and the end of each massage technique, in order to facilitate the smooth transition from one technique to the next.

- **Petrissage** - The word, *petrissage* is from the French word *patrir*, meaning "to knead". Petrissage is the act of kneading and squeezing the muscles of the body and the tissues are compressed and released in a rhythmical fashion. Petrissage may be administered with one or two hands depending on the size of the targeted tissue or muscle group.

- **Friction** The word, *friction* comes from the Latin word *frictio*, meaning "to rub". Friction is the best stroke to break up adhesions since it sinks deep into the muscle tissue and works to break apart and realign muscle fibers. Therefore, this technique is often used to treat tendinitis such as lateral epicondylitis (tennis elbow) and midial epicondylitis (golfer's elbow) . On most occasions, friction is done with the thumbs. It is also performed without lubricant, so that therapist's fingers do not glide over the client's skin. The tissues should be warmed and stretched before the technique is applied. Since friction raises local temperature, it should be followed by effleurage.

- **Vibration -** The word, *vibration* comes from the Latin term for "shaker" The vibration massage technique is a stroke that ranges from quick shaking to rhythmic rocking by moving the heel of the hand, the side of the hand, or the fingertips. Static vibrations involve using therapist's whole hand or part the hand to apply continuous contact with the client's body without sliding over the client's skin. Running vibrations involves the therapist's whole hand or part of the hand to apply continuous contact with the client's body with a slight glide over the client's skin. The vibration massage is a preparatory stroke that is intended to increase circulation to prepare the muscles for sports competition.

- **Tapotement -** The word, *tapotement* is derived from the old French term *tapir,*meaning "light blow."This massage technique involves a series of brisk percussions, in rapid, alternating, and rhythmic fasion. This is done by chopping the area with the sides of the hands or hitting the area being treated with cupped, fisted hands, palm, or fingers.

Cupping: performed with the palmar side of the hand in concave position

PROCEDURE:

ACTION	RATIONALE
Explain the procedure and offer back Massage to the patients	Back massage can facilitate circulation and promote relaxation.
Perform Hand hygiene	Hand hygiene deters the spread of microorganisms.
Close the curtain or door	Privacy increases relaxation.
Assist the patient to the prone position or side lying position with the back exposed from the shoulders to the sacral area	This position exposes an adequate area for massage with privacy and warmth maintained. Having the bed in the high position reduces back strain for the nurse.
Warm the lubricant or lotion in the palm of your hand or place the container in warm water.	Cold lotion causes chilling and uncomfortable sensation
Using light gliding strokes (effleurage), apply lotion to patient's shoulders, back, and sacral area.	Effleurage relaxes the patient and lessens the tension.
Place your hands beside each other at the base of the patient's spine and stroke upward to the shoulders and back downward to the buttocks in slow, continuous strokes. Continue for several minutes.	Continuous contact is soothing and stimulates circulation and muscle relaxation.

Massage the patient's shoulders, entire back, areas over iliac crests, and sacrum with circular stroking motion. Keep your hands in contact with the patient's skin. Continue for several minutes, applying additional lotion as necessary.	A firmer stroke with continuous contact promotes relaxation.
Knead the patient's skin by gently alternating grasping and compression motions (petrissage)	Kneading increases blood circulation to areas.
Complete the massage with additional long stroke movements.	Long stroking motion is soothing and promotes relaxation.
During massage, observe the patients skin for reddened or open areas. Pay particular attention to the skin over bony prominences.	Pressure may interfere with circulation and lead to development of decubitus ulcers. Backrub stimulates circulation to these areas.
Use the towel to pat the patient dry and to remove excess lotion. Apply power if the patient requests it.	This provides additional comfort for the patient.

ANNEXURE – I

PHOTOGRAPHS TAKEN DURING THE STUDY